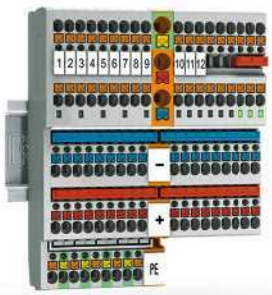
Shortform Catalog

2014



PHOENIX CONTACT
INSPIRING INNOVATIONS

PHOENIX CONTACT – in dialog with customers and partners worldwide

Phoenix Contact is a global market leader in the field of electrical engineering, electronics, and automation. Founded in 1923, the family-owned company now employs around 12,800 people worldwide. A sales network with over 50 sales subsidiaries and more than 30 additional sales partners guarantees customer proximity directly on site, anywhere in the world.

Company independence is an integral part of our corporate policy. Phoenix Contact therefore relies on in-house competence and expertise in a range of contexts: the design and development departments constantly come up with innovative product ideas, developing special solutions to meet customer requirements. Numerous patents emphasize the fact that many of Phoenix Contact's products have been developed in-house.

Our range of services consists of products surrounding various different electrotechnical applications. This includes numerous connection technologies for device manufacturers and machine building, components for modern control cabinets, and tailor-made solutions for many applications and industries, such as automobile production, wind energy, photovoltaics, the process industry or applications in the field of water supply, power distribution, and traffic infrastructure.

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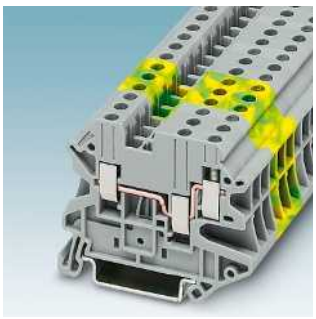

Feed-through and ground terminal blocks with three and four connections

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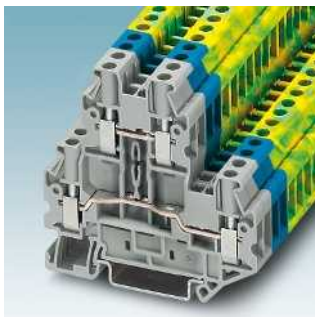

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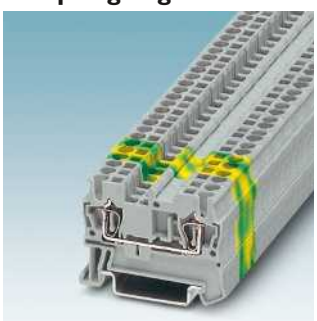

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Feed-through and ground terminal blocks with three and four connections

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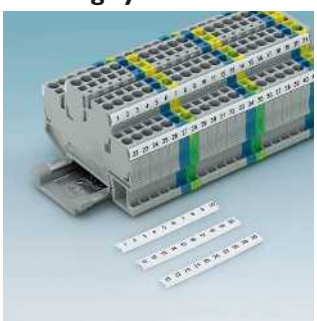

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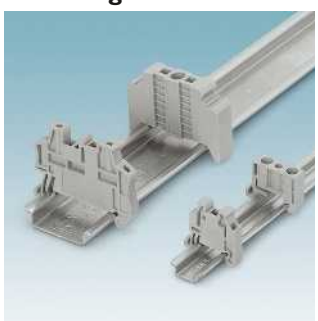

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COMBICON control

Connection technology for measurement and control technology and I/O modules: PCB terminal blocks and connectors with 2.54 to 7.62 mm pitch, screw, spring-cage, and insulation displacement connection, wave soldering.

See Catalog 1

COMBICON high density & data

Connectors in miniature format - fast insulation displacement, spring, and pierce connection technology, T-branches for easy bus connections.

See Catalog 1

COMBICON power

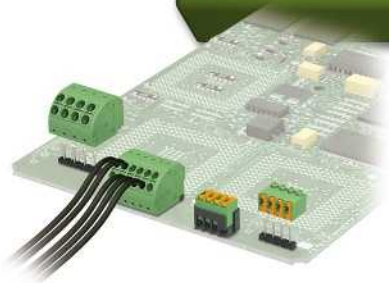
Connection technology for power electronics: PCB terminal blocks and connectors for currents up to 125 A, screw and spring-cage connection, panel feed-throughs.

See Catalog 1

COMBICON compact

Device connections for building technology and LED applications: PCB terminal blocks and connectors with 2.5 to 7.5 mm pitch, screw and spring-cage connection as well as pin strips.

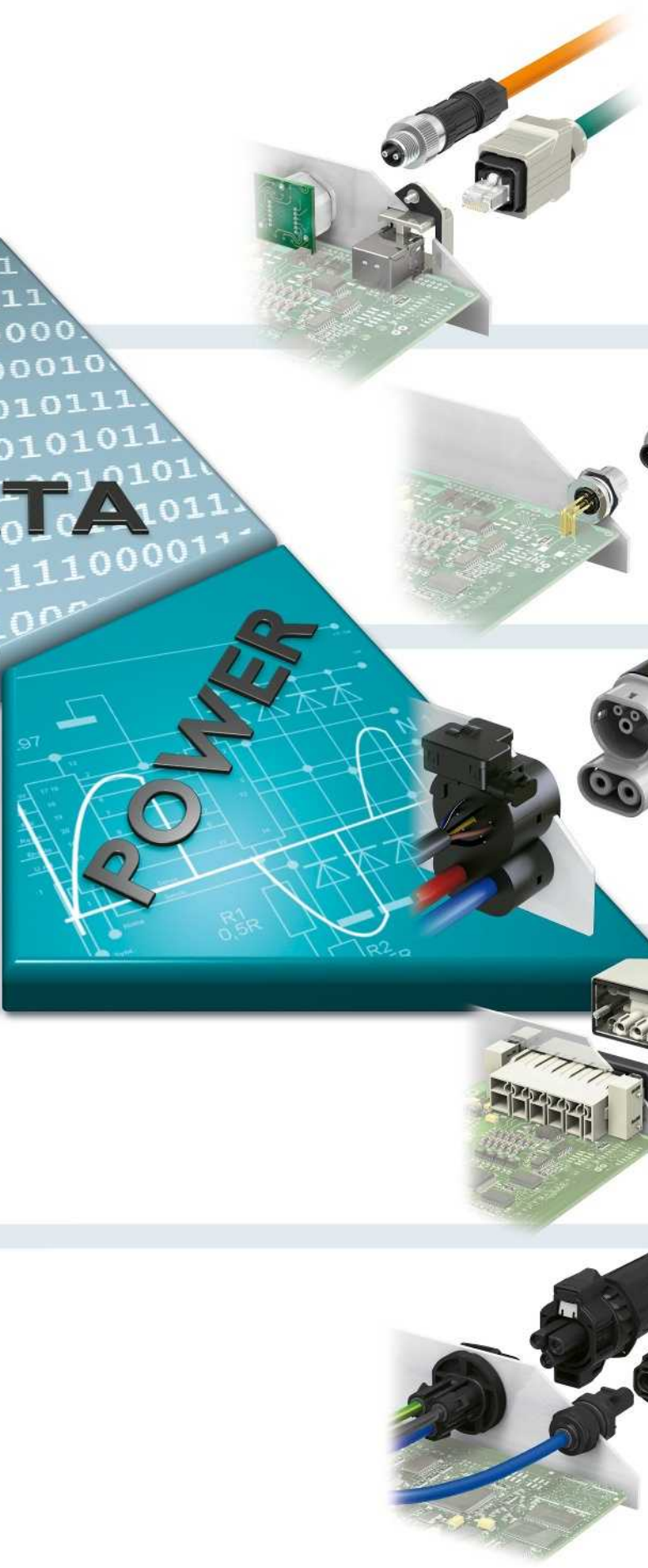
See Catalog 1



Housing

Plastic and aluminum electronics housing: component housing and panel mounting bases for industrial electronics, component housing for building installation, innovative bus connections between housing.

See Catalog 1



PLUSCON data

Connectors, panel feed-throughs, and cables for fieldbuses and networks.

See Catalog 2

PLUSCON circular

Flush-type connectors, connectors for assembly, and cables from M5 to M40 for signals, data, and power.

See Catalog 2

PLUSCON power

Charging systems for E-Mobility up to 400 A and connectors for power electronics up to 150 A.

See Catalog 2

PLUSCON device

Rectangular connectors with modular contact system for signals, power, and fiber optics with IP67 protection and available in various sizes.

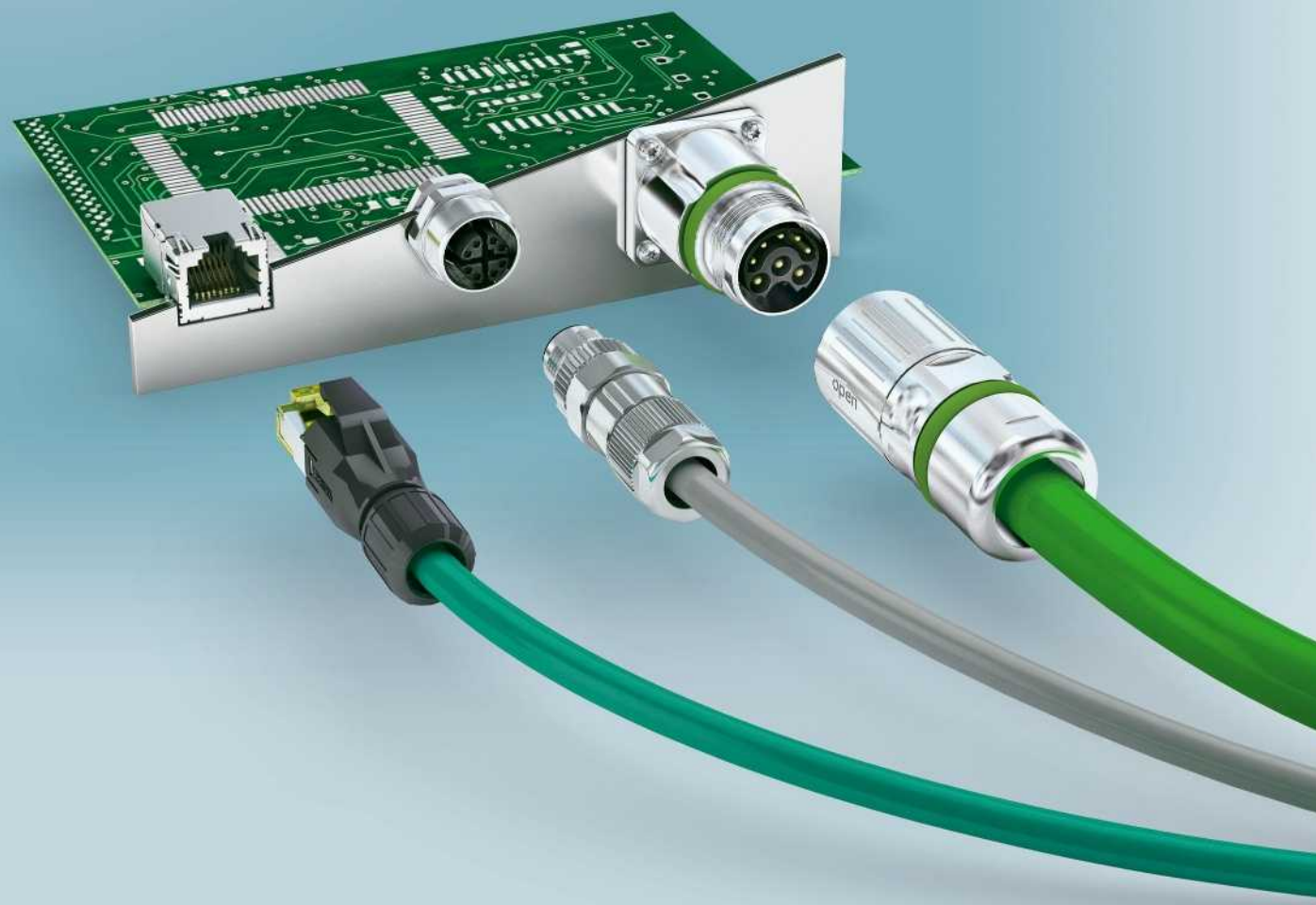
See Catalog 2

PLUSCON solar

AC and DC connection systems for photovoltaic modules, inverters, and micro inverters.

See Catalog 2

2



Connection technology for field devices

Standardized data interfaces are increasingly being used in industrial applications as part of the decentralization of complex manufacturing systems and the increasing need for rapid information and data exchange. Industrial conditions place high demands on connectors, the connection technology, and cabling, which are completely different from office environments.

Complete installation system

The product range consists of connectors, panel feed-throughs, assembled cables, patch panels, terminal outlets, plus corresponding accessories and thereby forms a complete installation system. It is suitable for use in field and industrial hall cabling inside the control cabinet and for integration in devices with a high degree of protection.

Easy field assembly

User-friendly fast connection technologies are available for connector assembly, even under the harshest industrial conditions. RJ45 connectors can be assembled for Ethernet and PROFINET cabling without the need for special tools.

Product range overview

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M8, M12 connectors for assembly	**18**
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RJ45 connectors, IP20 and IP67

Passive ETHERNET components with IP20 and IP67 protection for industrial cabling. In addition to crimp versions, plugs with the reliable QUICKON fast connection technology are available for quick and easy assembly. Panel mounting frames and socket inserts are available for device integration and control cabinet feed-throughs.

RJ45 connector, QUICKON fast connection technology, CAT5

VS-08-RJ45-5-Q/IP20

VS-08-RJ45-5-Q/IP67

Common technical data	
Connection method	IDC fast connection
Transmission properties	CAT5 (IEC 11801:2002), CAT5e (TIA 568B:2001)
Number of positions	8
Contact material	Copper alloy
Contact surface material	Gold over nickel
Ambient temperature (operation)	-20 °C ... 70 °C

Cable diameter	AWG	Degree of protection	Type	Order No.	Pcs. / Pkt.
4.5 mm ... 8 mm	26 ... 23	IP20	VS-08-RJ45-5-Q/IP20	1656725	1
5 mm ... 8 mm	26 ... 24	IP67	VS-08-RJ45-5-Q/IP67	1656990	1

RJ45 connector, QUICKON fast connection technology, CAT6A

Technical data	
Connection method	IDC fast connection
Transmission properties	$CAT6_A$ (IEC 60512-27-100:2008, TIA-568-C.2:2009)
Number of positions	8
Type	RJ45
Cable diameter	4.5 mm ... 8 mm
AWG	26 ... 24
Degree of protection	IP20
Contact material	CuSn
Contact surface material	Gold over nickel
Ambient temperature (operation)	-20 °C ... 70 °C

Type	Order No.	Pcs. / Pkt.
VS-08-RJ45-10G/Q	1419001	1

RJ45 connector, crimp connection method

IP67 protection is only achieved in conjunction with the **IP67 sleeve housings** listed here in the **accessories**.

VS-08-ST-H11-RJ45

VS-08-T-H-RJ45/IP67

Common technical data	
Connection method	IDC connection technology
Number of positions	8
Type	RJ45
Ambient temperature (operation)	-25 °C ... 60 °C

Transmission properties	AWG	Contact material	Contact surface material	Type	Order No.	Pcs. / Pkt.
CAT5 (IEC 11801:2002), CAT5e (TIA 568B:2001)	27 ... 26	Copper alloy	Gold over nickel	VS-08-ST-H11-RJ45	1652716	5
CAT6	24 ... 25	Phosphor bronze	Gold	VS-08-ST-H21-RJ45	1652729	5

Accessories	Type	Order No.	Pcs. / Pkt.
RJ45 sleeve housing, IP67, with push-pull locking for panel mounting frame, for cable diameter of 5.0 mm ... 8.5 mm, color: gray	VS-08-T-H-RJ45/IP67	1652732	5
Crimp tool, pliers with die, for RJ45 pin inserts	VS-CT-RJ45-H	1653265	1

RJ45 pin insert, CAT6A, 10 Gbps

IP67 protection is only achieved in conjunction with the **IP67 sleeve housings** listed here in the **accessories**.

VS-08-RJ45-10G/C

VS-08-T-H-RJ45/IP67

Technical data	
Connection method	IDC connection technology
Transmission properties	$CAT6_A$
Number of positions	8
Type	RJ45
AWG	24 ... 27
Degree of protection	IP20
Contact material	Phosphor bronze
Contact surface material	Gold
Ambient temperature (operation)	-25 °C ... 60 °C

	Type	Order No.	Pcs. / Pkt.
	VS-08-RJ45-10G/C	1418853	5

Accessories	Type	Order No.	Pcs. / Pkt.
RJ45 sleeve housing, IP67, with push-pull locking for panel mounting frame, for cable diameter of 5.0 mm ... 8.5 mm, color: gray	VS-08-T-H-RJ45/IP67	1652732	5
Crimp tool, pliers with die, for RJ45 pin inserts	VS-CT-RJ45-H	1653265	1

RJ45 socket inserts, modular system, IP20 and IP67

IP67 protection is only achieved in conjunction with the **IP67 panel mounting frames** listed here in the **accessories**.

VS-08-BU-RJ45/BU

VS-08-BU-RJ45-6/KA/LSA

Common technical data	
Number of positions	8
Type	Socket
Degree of protection	IP20
Contact material	Copper alloy
Contact surface material	Gold over nickel

Connection method	Transmission properties	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
Socket	CAT5 (IEC 11801:2002), CAT5e (TIA 568B:2001)	-20 °C ... 60 °C	VS-08-BU-RJ45/BU	1689064	5
LSA	CAT6	-20 °C ... 70 °C	VS-08-BU-RJ45-6/KA/LSA	1653168	5

Accessories	Type	Order No.	Pcs. / Pkt.
RJ45 panel mounting frame, IP20, for square mounting cutout, without fixing screws, color: **gray**	VS-08-A-RJ45/MOD-1-IP20	1689433	5
RJ45 panel mounting frame, IP67, for **round** mounting cutout, with seal, with thread and union nut, color: **gray**	VS-08-A-RJ45/MOD-1-R-IP67	1689844	1

RJ45 socket inserts, modular system, IP67

IP67 protection is only achieved in conjunction with the **IP67 panel mounting frames** listed here in the **accessories**.

VS-08-BU-RJ45-6-MOD/BU

VS-08-A-RJ45/MOD-1-R-IP67

Technical data	
Connection method	Socket
Transmission properties	CAT6 Link
Number of positions	8
Type	Socket
Degree of protection	IP20
Contact material	Copper alloy
Contact surface material	Gold over nickel
Ambient temperature (operation)	-40 °C ... 70 °C

	Type	Order No.	Pcs. / Pkt.
	VS-08-BU-RJ45-6-MOD/BU	1653155	5

Accessories	Type	Order No.	Pcs. / Pkt.
RJ45 panel mounting frame, IP67, for **round** mounting cutout, with seal, with thread and union nut, color: **gray**	VS-08-A-RJ45/MOD-1-R-IP67	1689844	1
Protective cover, flat, to cover the contact insert in the panel mounting frame, color: gray	VS-08-SD-F	1652606	5

RJ45 socket inserts, fast connection system, IP67

IP67 protection is only achieved in conjunction with the **IP67 panel mounting frames** listed here in the **accessories**.

VS-08-BU-RJ45-6-F/PK

VS-A-F-IP67

Common technical data	
Connection method	IDC
Number of positions	8
Type	Socket
Degree of protection	IP20
Contact material	Copper alloy
Contact surface material	Gold over nickel
Ambient temperature (operation)	-20 °C ... 70 °C

Transmission properties	Type	Order No.	Pcs. / Pkt.
CAT6	VS-08-BU-RJ45-6-F/PK	1652949	1
CAT5 (IEC 11801:2002), CAT5e (TIA 568B:2001)	VS-08-BU-RJ45-5-F/PK	1652936	1

Accessories	Type	Order No.	Pcs. / Pkt.
Panel mounting frame IP67, for round mounting cutout, with grommet, without mounting screws, color: gray	VS-A-F-IP67	1653744	5
Protective cover, flat, to cover the contact insert in the panel mounting frame, color: gray	VS-08-SD-F	1652606	5

RJ45 patch panel, with screw or LSA connection

FL-PP-RJ45-LSA

FL-PP-RJ45-SC

Common technical data	
Cable diameter	6 mm ... 10 mm
Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C

Connection method	Type	Order No.	Pcs. / Pkt.
LSA-PLUS	FL-PP-RJ45-LSA	2901645	1
Screw connection	FL-PP-RJ45-SC	2901643	1

RJ45 patch panel, DIN rail mounting, IDC connection, CAT6

Technical data	
Connection method	IDC fast connection
Transmission properties	CAT6
Number of positions	8
Cable diameter	4.5 mm ... 8 mm
Degree of protection	IP20
Number of slots	1
Contact material	Copper alloy
Contact surface material	Gold over nickel
Ambient temperature (operation)	-10 °C ... 60 °C

	Type	Order No.	Pcs. / Pkt.
	VS-PP-F-RJ45-CAT6	1658118	1

RJ45 patch panel, 19" mounting

Technical data	
Degree of protection	IP20
Number of slots	16
Ambient temperature (operation)	5 °C ... 55 °C

	Type	Order No.	Pcs. / Pkt.
	VS-PP-19-1HE-16-F	1652994	1

Terminal outlet, IP20, for flush-type mounting

Technical data	
Degree of protection	IP20
Number of slots	2
Ambient temperature (operation)	5 °C ... 55 °C

Type	Order No.	Pcs. / Pkt.
VS-TO-IW-2-F-9010	1653016	1

Terminal outlet, IP20, for surface mounting

VS-TO-OW-2-F-9010

VS-TO-0W-6-F-9010

Common technical data	
Degree of protection	IP20
Ambient temperature (operation)	5 °C ... 55 °C

Number of slots	Type	Order No.	Pcs. / Pkt.
2	VS-TO-OW-2-F-9010	1653003	1
6	VS-TO-0W-6-F-9010	1653029	1

Terminal outlet, IP65/IP67, with RJ45 slots

Technical data	
Transmission properties	CAT6
Degree of protection	IP65/67
Ambient temperature (operation)	-40 °C ... 70 °C

Type	Order No.	Pcs. / Pkt.
VS-TO-RO-MCBK-F1418/1418	1404278	1

RJ45 coupling, IP67, with protective cover

Technical data	
Transmission properties	CAT5 (IEC 11801:2002), CAT5e (TIA 568B:2001)
Number of positions	8
Degree of protection	IP67
Contact material	Copper alloy
Contact surface material	Gold over nickel
Ambient temperature (operation)	-10 °C ... 60 °C

Type	Order No.	Pcs. / Pkt.
VS-08-KU-IP67	1689268	1

RJ45 coding rings

Technical data	
Ambient temperature (operation)	-40 °C ... 80 °C

Type	Order No.	Pcs. / Pkt.
VS-08-RJ45-Q-COD-SET	1656893	1

D-SUB connectors

The practical D-SUB connector sets in standard and EMC version contain essential components, such as IP67 plug housings and panel mounting frames, screw connections, and coding profiles. Panel feed-throughs can be very easily implemented with the D-SUB panel mounting frame with integrated gender changer. Cables with IP67 protection can be connected via the IP67 D-SUB coupling.

D-SUB housing sets, IP67

VS-09-SET-STD

VS-15-SET-EMV

Common technical data	
Inflammability class in acc. with UL 94	V0
Degree of protection	IP67
External cable diameter	3 mm ... 9 mm
Cable exit	Angled
No. of cable exits	2
Ambient temperature (operation)	-40 °C ... 80 °C

Design	Shielded	Type	Order No.	Pcs. / Pkt.
D-SUB 9	No	VS-09-SET-STD	1689145	1
D-SUB 15	No	VS-15-SET-STD	1689129	1
D-SUB 25	No	VS-25-SET-STD	1652198	1
D-SUB 9	Yes	VS-09-SET-EMV	1689158	1
D-SUB 15	Yes	VS-15-SET-EMV	1689132	1
D-SUB 25	Yes	VS-25-SET-EMV	1652208	1

D-SUB contact inserts, screw connection

VS-09-BU-DSUB/9-MPT-0,5

VS-09-ST-DSUB/10-MPT-0,5

Common technical data	
Inflammability class in acc. with UL 94	V0
Degree of protection	IP20
Rated voltage	60 V
Rated current	5 A
Connection method	Screw connection
Connection cross section	0.14 mm² ... 0.5 mm²
Contact material	Copper alloy
Contact surface material	Gold over nickel
Ambient temperature (operation)	-20 °C ... 80 °C

Design	Number of positions	Type	Type	Order No.	Pcs. / Pkt.
09	9	Socket	VS-09-BU-DSUB/9-MPT-0,5	1688395	10
09	9	Pin	VS-09-ST-DSUB/10-MPT-0,5	1688379	10
15	15	Socket	VS-15-BU-DSUB/16-MPT-0,5	1688094	10
15	15	Pin	VS-15-ST-DSUB/16-MPT-0,5	1688078	10
25	25	Socket	VS-25-BU-DSUB/25-MPT-0,5	1689776	10
25	25	Pin	VS-25-ST-DSUB/25-MPT-0,5	1689789	10

IP67 D-SUB panel mounting frame, with integrated gender changer

Common technical data	
Degree of protection	IP67
Contact material	Copper alloy
Contact surface material	Hard gold-plated over nickel
Ambient temperature (operation)	-40 °C ... 80 °C

Number of positions	Design	Type	Type	Order No.	Pcs. / Pkt.
9	D-SUB 9	Socket/socket	VS-09-A-GC-BU/BU	1689695	5
9	D-SUB 9	Pin/pin	VS-09-A-GC-ST/ST	1689705	5
15	D-SUB 15	Socket/socket	VS-15-A-GC-BU/BU	1689718	5
15	D-SUB 15	Pin/pin	VS-15-A-GC-ST/ST	1689721	5
25	D-SUB 25	Socket/socket	VS-25-A-GC-BU/BU	1689734	5
25	D-SUB 25	Pin/pin	VS-25-A-GC-ST/ST	1689747	5

Accessories	Type	Order No.	Pcs. / Pkt.
D-SUB protective cover, IP54 protection, for VARIOSUB IP67 panel mounting frame and sleeve housing	VS-09-SD	1887086	5
D-SUB protective cover, IP54 protection, for VARIOSUB IP67 panel mounting frame and sleeve housing	VS-15-SD	1887099	5
D-SUB protective cover, IP54 protection, for VARIOSUB IP67 panel mounting frame and sleeve housing	VS-25-SD	1652211	5

IP67 D-SUB coupling, with integrated gender changer

Common technical data	
Degree of protection	IP67
Contact material	Copper alloy
Contact surface material	Hard gold-plated over nickel
Ambient temperature (operation)	-40 °C ... 80 °C

Number of positions	Design	Type	Type	Order No.	Pcs. / Pkt.
9	D-SUB 9	Socket/socket	VS-09-KU-BU/BU	1689637	5
9	D-SUB 9	Pin/pin	VS-09-KU-ST/ST	1689640	5
15	D-SUB 15	Socket/socket	VS-15-KU-BU/BU	1689653	5
15	D-SUB 15	Pin/pin	VS-15-KU-ST/ST	1689666	5
25	D-SUB 25	Socket/socket	VS-25-KU-BU/BU	1689679	5
25	D-SUB 25	Pin/pin	VS-25-KU-ST/ST	1689682	5

Accessories	Type	Order No.	Pcs. / Pkt.
D-SUB protective cover, IP54 protection, for VARIOSUB IP67 panel mounting frame and sleeve housing	VS-09-SD	1887086	5
D-SUB protective cover, IP54 protection, for VARIOSUB IP67 panel mounting frame and sleeve housing	VS-15-SD	1887099	5
D-SUB protective cover, IP54 protection, for VARIOSUB IP67 panel mounting frame and sleeve housing	VS-25-SD	1652211	5

Device connectors

A comprehensive range of M5, M8, and M12 flush-type connectors and panel feed-throughs has emerged as a result of the various requirements for sensor/actuator device connection technology in industrial environments. Customer-specific developments enable optimum adaptation to individual device concepts.

M8, one-piece, rear/screw mounting, with straight solder connection

SACC-DSI-M 8FS-3CON-L180

SACC-DSI-M 8MS-4CON-L180

Common technical data	
Mounting type	Rear mounting
Coding	A - standard
I_N	4 A
Degree of protection	IP67
Plug/socket ambient temperature	-25 °C ... 85 °C

Design type, plug side	Thread type	Number of positions	U_N	Type	Order No.	Pcs. / Pkt.
Socket, straight, M8	M12 x 1	3	60 V	SACC-DSI-M 8FS-3CON-L180	1694363	20
Plug, straight, M8	M8 x 0.5	3	60 V	SACC-DSI-M 8MS-3CON-L180	1694334	20
Socket, straight, M8	M12 x 1	4	30 V	SACC-DSI-M 8FS-4CON-L180	1694376	20
Plug, straight, M8	M8 x 0.5	4	30 V	SACC-DSI-M 8MS-4CON-L180	1694347	20

M12, one-piece, rear/screw mounting, with straight solder connection

SACC-DSI-MS-4CON-M12 SCO

SACC-DSI-MSD-4CON-M12 SCO

Common technical data	
Design type, plug side	Plug, straight, M12, SPEEDCON
Mounting type	Rear mounting
Thread type	M12 x 1
I_N	4 A
Degree of protection	IP67
Plug/socket ambient temperature	-25 °C ... 85 °C

Number of positions	Coding	U_N	Type	Order No.	Pcs. / Pkt.
4	A - standard	250 V	SACC-DSI-MS-4CON-M12 SCO	1551820	20
4	D - data	250 V	SACC-DSI-MSD-4CON-M12 SCO	1551859	20
5	A - standard	60 V	SACC-DSI-MS-5CON-M12 SCO	1551833	20
5	B - inverse	60 V	SACC-DSI-MSB-5CON-M12 SCO	1551846	20

M12, control cabinet feed-through

Technical data	
Design type, plug side	Socket, straight, M12 -> Socket, straight, M12
Mounting type	Bipolar mounting
Thread type	M16 x 1.5
Number of positions	4
Coding	D - data
I_N	4 A
U_N	60 V
Degree of protection	IP67
Plug/socket ambient temperature	-25 °C ... 85 °C

Type	Order No.	Pcs. / Pkt.
SACC-4P-DSI-M12FSD/FSD-M16	1424326	1

Connectors for assembly

Safe and efficient assembly is of utmost importance in field wiring. The 5 selection options of the connection technology enable precise adaptation to the respective application or requirements in the field. The connectors for assembly are available in various versions, unshielded and EMC-compliant.

M8, insulation displacement connection, with metal knurl

SACC-M 8FS-3QO-0,5-M

SACC-M 8MS-4QO-0,5-M

Common technical data	
Coding	A - standard
Signal type	Universal
Connection cross section	0.25 mm² ... 0.5 mm²
Cable feed-through [mm]	2.5 mm ... 5 mm
I_N	4 A
Degree of protection	IP65 / IP67
Connection method	Insulation displacement connection
Material of grip body	PA 6
Plug/socket ambient temperature	-25 °C ... 80 °C (Plug / socket)

Design	Number of positions	U_N	Type	Order No.	Pcs. / Pkt.
Socket, straight, M8	3	60 V	SACC-M 8FS-3QO-0,5-M	1441066	1
Plug, straight, M8	3	60 V	SACC-M 8MS-3QO-0,5-M	1441024	1
Socket, straight, M8	4	30 V	SACC-M 8FS-4QO-0,5-M	1441079	1
Plug, straight, M8	4	30 V	SACC-M 8MS-4QO-0,5-M	1441037	1

M12, insulation displacement connection, with plastic knurl

SACC-M12FS-4QO-0,75

SACC-M12MS-4QO-0,75

Common technical data	
Number of positions	4
Coding	A - standard
Signal type	Universal
Connection cross section	0.34 mm² ... 0.75 mm²
Cable feed-through [mm]	4 mm ... 8 mm
U_N	250 V
I_N	4 A
Degree of protection	IP65 / IP67
Connection method	Insulation displacement connection
Material of grip body	PA 6
Plug/socket ambient temperature	-25 °C ... 80 °C (Plug / socket)

Design	Type	Order No.	Pcs. / Pkt.
Socket, straight, M12	SACC-M12FS-4QO-0,75	1641756	1
Plug, straight, M12	SACC-M12MS-4QO-0,75	1641769	1

M12, insulation displacement connection, with metal knurl

SACC-M12FS-4QO-0,75-M

SACC-M12MS-4QO-0,75-M

Common technical data	
Number of positions	4
Coding	A - standard
Signal type	Universal
Connection cross section	0.34 mm² ... 0.75 mm²
Cable feed-through [mm]	4 mm ... 8 mm
U_N	250 V
I_N	4 A
Degree of protection	IP65 / IP67
Connection method	Insulation displacement connection
Material of grip body	PA 6
Plug/socket ambient temperature	-25 °C ... 80 °C (Plug / socket)

Design	Type	Order No.	Pcs. / Pkt.
Socket, straight, M12	SACC-M12FS-4QO-0,75-M	1641772	1
Plug, straight, M12	SACC-M12MS-4QO-0,75-M	1641785	1

M12, insulation displacement connection, with SPEEDCON metal knurl

SACC-FS-4QO-0,75-M SCO

SACC-MS-4QO-0,75-M SCO

Common technical data	
Number of positions	4
Coding	A - standard
Signal type	Universal
Connection cross section	0.34 mm² ... 0.75 mm²
Cable feed-through [mm]	4 mm ... 8 mm
U_N	250 V
I_N	4 A
Degree of protection	IP65 / IP67
Connection method	Insulation displacement connection
Material of grip body	PA 6
Plug/socket ambient temperature	-25 °C ... 80 °C (Plug / socket)

Design	Type	Order No.	Pcs. / Pkt.
Socket, straight, M12, SPEEDCON	SACC-FS-4QO-0,75-M SCO	1521601	1
Plug, straight, M12, SPEEDCON	SACC-MS-4QO-0,75-M SCO	1521591	1

M12, screw connection, with plastic knurl

SACC-M12FR-4CON-PG7

SACC-M12MS-4CON-PG 7

Common technical data	
Number of positions	4
Coding	A - standard
Signal type	Universal
Connection cross section	0.25 mm² ... 0.75 mm²
Cable feed-through [mm]	4 mm ... 6 mm
U_N	250 V
I_N	4 A
Degree of protection	IP67
Connection method	Screw connection
Material of grip body	PBT
Plug/socket ambient temperature	-40 °C ... 85 °C (Plug / socket)

Design	Type	Order No.	Pcs. / Pkt.
Socket, angled, M12	SACC-M12FR-4CON-PG7	1681130	1
Plug, angled, M12	SACC-M12MR-4CON-PG7	1681091	1
Socket, straight, M12	SACC-M12FS-4CON-PG7	1681114	1
Plug, straight, M12	SACC-M12MS-4CON-PG 7	1681088	1

Accessories	Type	Order No.	Pcs. / Pkt.
Seal set, pressure screw and seal, for cable diameter: 2.5 ... 3.5 mm	SACC-M12-SET/2,5-3,5	1436505	5

USB and FireWire

A star topology is used with USB and FireWire. The individual transmission cables run from a central device, e.g., an industrial PC, to the devices.
The USB and FireWire connectors enable the direct use of these interfaces on the machine and in the control cabinet. Due to the robust snap-in hook locking mechanism and plug-in compatibility with the standard, typical areas of application in industrial environments can be covered.

Patch cable, USB type A IP67 to USB type B IP67

Common technical data	
Transmission properties	USB 2.0
Number of positions	4
Degree of protection	IP67
Ambient temperature (operation)	-20 °C ... 60 °C (cable, fixed installation)

Length	Type	Order No.	Pcs. / Pkt.
2 m	VS-04-2X2X26C7/7-67A/67B/2,0	1653870	1
5 m	VS-04-2X2X26C7/7-67A/67B/5,0	1653883	1

Patch cable, USB type A IP67 to USB type B IP20

Common technical data	
Transmission properties	USB 2.0
Number of positions	4
Degree of protection	IP67/IP20
Ambient temperature (operation)	-20 °C ... 60 °C (cable, fixed installation)

Length	Type	Order No.	Pcs. / Pkt.
2 m	VS-04-2X2X26C7/7-67A/SDB/2,0	1653896	1
5 m	VS-04-2X2X26C7/7-67A/SDB/5,0	1653906	1

Patch cable, USB type B IP67 to USB type A IP20

Common technical data	
Transmission properties	USB 2.0
Number of positions	4
Degree of protection	IP67/IP20
Ambient temperature (operation)	-20 °C ... 60 °C (cable, fixed installation)

Length	Type	Order No.	Pcs. / Pkt.
2 m	VS-04-2X2X26C7/7-67B/SDA/2,0	1653919	1
5 m	VS-04-2X2X26C7/7-67B/SDA/5,0	1653922	1

USB socket insert

VS-04-BUA-BUB-F/IP67

VS-04-BUA-FK-F/IP67

Common technical data	
Transmission properties	USB 2.0
Number of positions	4
Degree of protection	IP20
Contact material	Copper alloy
Contact surface material	Gold over nickel
Ambient temperature (operation)	-15 °C ... 65 °C

Connection method	Type	Order No.	Pcs. / Pkt.
Socket, type B	VS-04-BUA-BUB-F/IP67	1653838	1
Flat-ribbon cable connection, pitch 2.54 mm	VS-04-BUA-FK-F/IP67	1653854	1
Flat-ribbon cable connection, pitch 2.54 mm	VS-04-BUB-FK-F/IP67	1653867	1

Patch cable, FireWire IP67 to FireWire IP67

Common technical data	
Transmission properties	FireWire (400 Mbps)
Number of positions	6
Degree of protection	IP67
Ambient temperature (operation)	-20 °C ... 60 °C (cable, fixed installation)

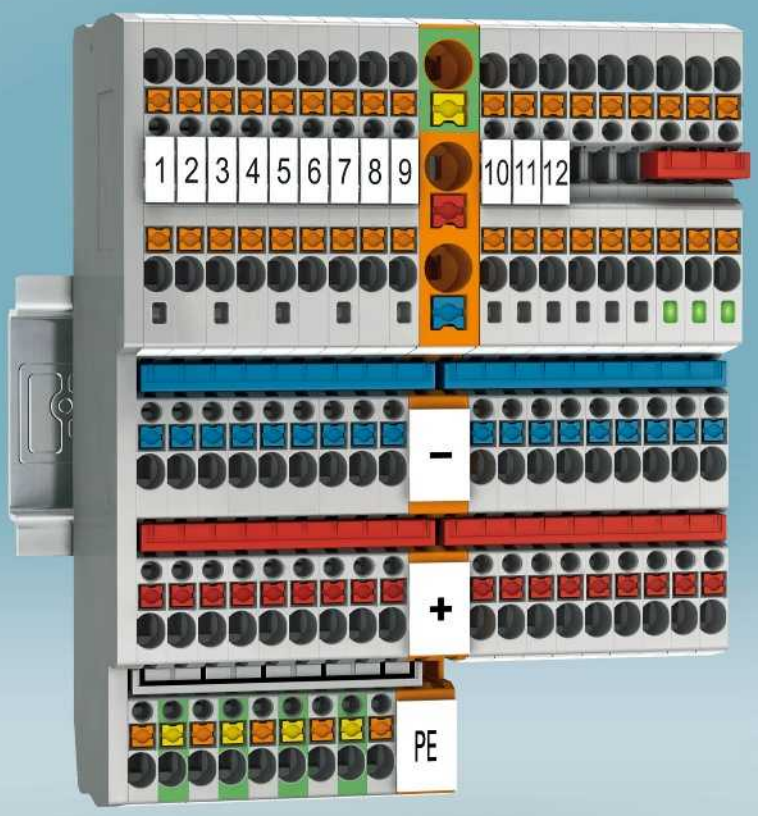
Length	Type	Order No.	Pcs. / Pkt.
2 m	VS-06-2X2X26C7/7-67/67/ 2,0	1654015	1
5 m	VS-06-2X2X26C7/7-67/67/ 5,0	1654028	1

Patch cable, FireWire IP67 to FireWire IP20

Common technical data	
Transmission properties	FireWire (400 Mbps)
Number of positions	6
Degree of protection	IP67/IP20
Ambient temperature (operation)	-20 °C ... 60 °C (cable, fixed installation)

Length	Type	Order No.	Pcs. / Pkt.
2 m	VS-06-2X2X26C7/7-67/SD/ 2,0	1654167	1
5 m	VS-06-2X2X26C7/7-67/SD/ 5,0	1654170	1

3



Modular terminal blocks

The UT screw connection terminal blocks from the CLIPLINE complete system meet the most stringent requirements and cover a wide area of application. They impress with their maintenance-free conductor connection and offer maximum flexibility with their multi-conductor connection. You can connect conductors with a nominal cross section either with or without ferrules. It is not necessary to tighten the terminal block screws, since they are prevented from loosening by the Reakdyn principle, a screw locking technique developed by Phoenix Contact.

The PT push-in connection terminal blocks from the CLIPLINE complete system have been developed for direct conductor connection and offer a wide range of possible applications. Easy handling and direct, tool-free connection with up to 50 percent lower insertion forces are the key advantages of this terminal technology. When solid conductors or conductors with ferrules from 0.34 mm² are inserted, the contact spring is automatically opened and provides the required pressure force against the current bar.

The ST spring-cage connection terminal blocks from the CLIPLINE complete system have been developed for universal, spring-loaded conductor contacting. The high contact force guarantees a vibration-proof, gas-tight connection with long-term stability.

The compact front connection ensures easy operation. The terminal point is opened using a standard screwdriver. After the conductor has been inserted into the clamping space, the screwdriver is removed and the conductor automatically makes contact.

Screw connections continue to dominate industrial connection technology. No other connection technology can achieve such high contact forces in a confined space. Our UK universal terminal block series, which has been accepted throughout the world, is named after the universal snap-on foot for DIN and G-profile rails, as well as the multi-conductor connection. Another feature of this terminal block series is the flexible screw-type bridge system with a high current carrying capacity.

Product range overview

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Screw connection terminal blocks

Phoenix Contact screw terminal blocks are designed for very high demands. An important characteristic is the maintenance-free connection of conductors. It is not necessary to tighten the terminal screws. The screws are prevented from loosening by the "Reakdyn principle", a screw locking technique developed by Phoenix Contact.
All kinds of copper conductors can be clamped without pretreatment. Splicing protection can also be used in the form of ferrules. A special characteristic of the screw clamping body is the multi-conductor connection, which is often necessary.

Terminal blocks with screw connection, 0.14 - 4 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

UT 2,5

UT 2,5-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.14 mm² - 4 mm²
Connection cross section, screw connection	26 - 12 AWG
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	47.7 mm
Height NS 35/7,5	47.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	1000 V	32 A (with 4 mm² conductor cross section)	600 V	20 A	gray	UT 2,5	3044076	50
	1000 V	32 A (with 4 mm² conductor cross section)	600 V	20 A	blue	UT 2,5 BU	3044089	50
	-	-	-	-	green-yellow	UT 2,5-PE	3044092	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UT 2,5/10	3047028	50
Cover, 2.2 mm width, blue	D-UT 2,5/10 BU	3047235	50
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-UT	3047167	50
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Terminal blocks with screw connection, 0.14 - 6 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

UT 4

UT 4-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.14 mm² - 6 mm²
Connection cross section, screw connection	26 - 10 AWG
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	47.7 mm
Height NS 35/7,5	47.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	1000 V	41 A (with 6 mm² conductor cross section)	600 V	30 A	gray	UT 4	3044102	50
	1000 V	41 A (with 6 mm² conductor cross section)	600 V	30 A	blue	UT 4 BU	3044115	50
	-	-	-	-	green-yellow	UT 4-PE	3044128	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UT 2,5/10	3047028	50
Cover, 2.2 mm width, blue	D-UT 2,5/10 BU	3047235	50
Jumper, 2-pos.	FBS 2-6	3030336	50
Jumper, 3-pos.	FBS 3-6	3030242	50
Jumper, 10-pos.	FBS 10-6	3030271	10
Partition plate, 2 mm width	ATP-UT	3047167	50
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Terminal blocks with screw connection, 0.2 - 10 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

UT 6

UT 6-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.2 mm² - 10 mm²
Connection cross section, screw connection	24 - 8 AWG
Tightening torque	1.5 Nm - 1.8 Nm
Width	8.2 mm
Length	47.7 mm
Height NS 35/7,5	47.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	1000 V	57 A (with 10 mm² conductor cross section)	600 V	50 A	gray	UT 6	3044131	50
	1000 V	57 A (with 10 mm² conductor cross section)	600 V	50 A	blue	UT 6 BU	3044144	50
	-	-	-	-	green-yellow	UT 6-PE	3044157	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UT 2,5/10	3047028	50
Cover, 2.2 mm width, blue	D-UT 2,5/10 BU	3047235	50
Jumper, 2-pos.	FBS 2-8	3030284	10
Jumper, 3-pos.	FBS 3-8	3030297	10
Jumper, 10-pos.	FBS 10-8	3030323	10
Partition plate, 2 mm width	ATP-UT	3047167	50
Screwdriver	SZS 1,0X4,0 VDE	1205066	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 8:UNBEDRUCKT	1052002	10

Three-conductor terminal blocks with screw connection, 0.14 - 4 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

UT 2,5-TWIN

UT 2,5-TWIN-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.14 mm² - 4 mm²
Connection cross section, screw connection	26 - 12 AWG
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	57.8 mm
Height NS 35/7,5	47.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	500 V	30 A (In case of a 4 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors.)	150 V	20 A	gray	UT 2,5-TWIN	3044513	50
	500 V	30 A (In case of a 4 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors.)	150 V	20 A	blue	UT 2,5-TWIN BU	3044526	50
	-	-	-	-	green-yellow	UT 2,5-TWIN-PE	3044539	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UT 2,5/4-TWIN	3047141	50
Cover, 2.2 mm width, blue	D-UT 2,5/4-TWIN BU	3047142	50
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-UT-TWIN	3047183	50
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Three-conductor terminal blocks with screw connection, 0.14 - 6 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

UT 4-TWIN

UT 4-TWIN-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.14 mm² - 6 mm²
Connection cross section, screw connection	26 - 10 AWG
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	57.8 mm
Height NS 35/7,5	47.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	500 V	41 A (In the case of a 6 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors)	150 V	30 A	gray	UT 4-TWIN	3044364	50
	500 V	41 A (In the case of a 6 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors)	150 V	30 A	blue	UT 4-TWIN BU	3044500	50
	-	-	-	-	green-yellow	UT 4-TWIN-PE	3044380	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UT 2,5/4-TWIN	3047141	50
Cover, 2.2 mm width, blue	D-UT 2,5/4-TWIN BU	3047142	50
Jumper, 2-pos.	FBS 2-6	3030336	50
Jumper, 3-pos.	FBS 3-6	3030242	50
Jumper, 10-pos.	FBS 10-6	3030271	10
Partition plate, 2 mm width	ATP-UT-TWIN	3047183	50
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Four-conductor terminal blocks with screw connection, 0.14 - 4 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

UT 2,5-QUATTRO

UT 2,5-QUATTRO-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.14 mm² - 4 mm²
Connection cross section, screw connection	26 - 12 AWG
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	65.4 mm
Height NS 35/7,5	47.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	500 V	30 A (In case of a 4 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors.)	150 V	20 A	gray	UT 2,5-QUATTRO	3044542	50
	500 V	30 A (In case of a 4 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors.)	150 V	20 A	blue	UT 2,5-QUATTRO BU	3044555	50
	-	-	-	-	green-yellow	UT 2,5-QUATTRO-PE	3044568	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UT 2,5/4-QUATTRO	3047170	50
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-UT-QUATTRO	3047196	50
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Four-conductor terminal blocks with screw connection, 0.14 - 6 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

UT 4-QUATTRO

UT 4-QUATTRO-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.14 mm² - 6 mm²
Connection cross section, screw connection	26 - 10 AWG
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	65.4 mm
Height NS 35/7,5	47.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	500 V	39 A (In the case of a 6 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors)	150 V	30 A	gray	UT 4-QUATTRO	3044571	50
	500 V	39 A (In the case of a 6 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors)	150 V	30 A	blue	UT 4-QUATTRO BU	3044584	50
	-	-	-	-	green-yellow	UT 4-QUATTRO-PE	3044597	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UT 2,5/4-QUATTRO	3047170	50
Jumper, 2-pos.	FBS 2-6	3030336	50
Jumper, 3-pos.	FBS 3-6	3030242	50
Jumper, 10-pos.	FBS 10-6	3030271	10
Partition plate, 2 mm width	ATP-UT-QUATTRO	3047196	50
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Double-level terminal blocks with screw connection, 0.14 - 4 mm²

Terminal block, for mounting on DIN rail NS 35
Terminal block ...-PV, with equipotential bonding between the upper and the lower levels, for mounting on DIN rail NS 35
Ground terminal block, for mounting on DIN rail NS 35

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

UTTB 2,5

UTTB 2,5-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.14 mm² - 4 mm²
Connection cross section, screw connection	26 - 12 AWG
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	69.9 mm
Height NS 35/7,5	65 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	500 V	28 A (In case of a 4 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors.)	600 V	20 A	gray	UTTB 2,5	3044636	50
	500 V	28 A (In case of a 4 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors.)	600 V	20 A	blue	UTTB 2,5 BU	3044649	50
	500 V	28 A (In case of a 4 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors.)	600 V	20 A	gray	UTTB 2,5-PV	3044652	50
	-	-	-	-	green-yellow	UTTB 2,5-PE	3044665	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UTTB 2,5/4	3047293	50
Spacer plate, compensates for the level offset, 2.5 mm thick	DP-UTTB 2,5/4	3047303	50
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-UTTB 2,5/4	3047316	50
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Double-level terminal blocks with screw connection, 0.14 - 6 mm²

Terminal block, for mounting on DIN rail NS 35
Terminal block ...-PV, with equipotential bonding between the upper and the lower levels, for mounting on DIN rail NS 35
Ground terminal block, for mounting on DIN rail NS 35

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

UTTB 4

UTTB 4-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.14 mm² - 6 mm²
Connection cross section, screw connection	26 - 10 AWG
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	69.9 mm
Height NS 35/7,5	65 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	800 V	36 A (with 6 mm² conductor cross section)	600 V	30 A	gray	UTTB 4	3044814	50
	800 V	36 A (with 6 mm² conductor cross section)	600 V	30 A	blue	UTTB 4 BU	3044791	50
	800 V	36 A (with 6 mm² conductor cross section)	600 V	30 A	gray	UTTB 4-PV	3044733	50
	-	-	-	-	green-yellow	UTTB 4-PE	3044759	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UTTB 2,5/4	3047293	50
Spacer plate, compensates for the level offset, 2.5 mm thick	DP-UTTB 2,5/4	3047303	50
Jumper, 2-pos.	FBS 2-6	3030336	50
Jumper, 3-pos.	FBS 3-6	3030242	50
Jumper, 10-pos.	FBS 10-6	3030271	10
Partition plate, 2 mm width	ATP-UTTB 2,5/4	3047316	50
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Fuse terminal blocks with screw connection, 0.14 - 6 mm²

Fuse terminal block, UT 4-HESI (5 x 20), for mounting on DIN rail NS 35, for cartridge fuse inserts 5 x 20 mm
Fuse terminal block, UT 4-HESILA 250 (5 x 20), for mounting on DIN rail NS 35, for cartridge fuse inserts 5 x 20 mm, with LED

UT 4-HESI (5X20)

UT 4-HESILA 250 (5X20)

Common technical data	
Connection cross section, screw connection, solid	0.14 mm² - 6 mm²
Connection cross section, screw connection	26 - 10 AWG
Max. load current	6.3 A (the current is determined by the fuse used)
UL rated voltage	600 V
UL nominal current	6.3 A
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	57.8 mm
Height NS 35/7,5	73 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	black

	Certification	Nominal voltage U_N	Type	Order No.	Pcs. / Pkt.
-		500 V (As a fuse terminal block)	UT 4-HESI (5X20)	3046032	50
With LED for 12–30 V AC/DC, 0.31–0.95 mA		24 V	UT 4-HESILED 24 (5X20)	3046090	50
For 30–60 V AC/DC, 0.40–0.86 mA		60 V	UT 4-HESILED 60 (5X20)	3046126	50
For 110–250 V AC/DC, 0.41–0.96 mA		250 V	UT 4-HESILA 250 (5X20)	3046100	50

Accessories	Type	Order No.	Pcs. / Pkt.
Jumper, 2-pos.	FBS 2-6	3030336	50
Jumper, 3-pos.	FBS 3-6	3030242	50
Jumper, 10-pos.	FBS 10-6	3030271	10
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Disconnect terminal block with screw connection, 0.14 - 6 mm²

Disconnect terminal block, for mounting on NS 35/... DIN rail

Technical data	
Certification	
Connection cross section, screw connection, solid	0.14 mm² - 6 mm²
Connection cross section, screw connection	26 - 10 AWG
Nominal voltage U_N	500 V
Max. load current	20 A (with 6 mm² conductor cross section)
UL rated voltage	600 V
UL nominal current	16 A
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	57.8 mm
Height NS 35/7,5	73 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	Black/orange

	Type	Order No.	Pcs. / Pkt.
	UT 4-HEDI	3046249	50

Accessories	Type	Order No.	Pcs. / Pkt.
Jumper, 2-pos.	FBS 2-6	3030336	50
Jumper, 3-pos.	FBS 3-6	3030242	50
Jumper, 4-pos.	FBS 4-6	3030255	50
Jumper, 5-pos.	FBS 5-6	3030349	50
Jumper, 10-pos.	FBS 10-6	3030271	10
Jumper, 20-pos.	FBS 20-6	3030365	10

Disconnect terminal blocks with screw connection, 0.14 - 4 mm²

Disconnect terminal block UT...-TG, for mounting on DIN rail NS 35
Disconnect terminal block UT...-TG-P/P, with test socket screws, for mounting on DIN rail NS 35

Common technical data	
Certification	
Connection cross section, screw connection, solid	0.14 mm² - 4 mm²
Connection cross section, screw connection	26 - 12 AWG
Nominal voltage U_N	400 V (Current and voltage are determined by the plug used.)
Max. load current	20 A (Current and voltage are determined by the plug used.)
UL rated voltage	300 V
UL nominal current	20 A
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	57.8 mm
Height NS 35/7,5	47.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Color	Type	Order No.	Pcs. / Pkt.
gray	UT 2,5-TG	3046388	50
blue	UT 2,5-TG BU	3046579	50
gray	UT 2,5-TG-P/P	3046391	50
blue	UT 2,5-TG-P/P BU	3046582	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UT 2,5/4-TWIN	3047141	50
Cover, 2.2 mm width, blue	D-UT 2,5/4-TWIN BU	3047142	50
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-UT-TWIN	3047183	50
Isolating plug	P-DI	3036783	50
Feed-through connector	P-FIX	3038956	50
Component plug, can be labeled with ZBF 5	P-CO	3036796	10
Fuse connector, width 6.2 mm	P-FU 5X20	3036806	10
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Knife disconnect terminal blocks with screw connection, 0.14 - 4 mm²

Knife disconnect terminal block UT...-MT, for mounting on DIN rail NS 35
Disconnect terminal block UT...-MT-P/P, with test socket screws, for mounting on DIN rail NS 35

Common technical data	
Certification	
Connection cross section, screw connection, solid	0.14 mm² - 4 mm²
Connection cross section, screw connection	26 - 12 AWG
Nominal voltage U_N	400 V
Max. load current	20 A (with 4 mm² conductor cross section)
UL rated voltage	300 V
UL nominal current	20 A
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	57.8 mm
Height NS 35/7,5	49.1 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Color	Type	Order No.	Pcs. / Pkt.
gray	UT 2,5-MT	3046362	50
blue	UT 2,5-MT BU	3046553	50
gray	UT 2,5-MT-P/P	3046375	50
blue	UT 2,5-MT P/P BU	3046566	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UT 2,5/4-TWIN	3047141	50
Cover, 2.2 mm width, blue	D-UT 2,5/4-TWIN BU	3047142	50
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-UT-TWIN	3047183	50
Screwdriver	SZS 0,6X3,5	1205053	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Push-in connection terminal blocks

Phoenix Contact push-in terminal blocks have been developed for direct conductor connection. This means that solid conductors or those with ferrules can be directly inserted into the terminal block without tools.
The special spring profile enables the easy insertion of conductors with ferrules with a cross section of 0.2 mm² or higher. The contact spring is opened automatically when the conductor is pushed in and thereby provides the required pressure force against the current bar. Both for releasing conductors and connecting small cross sections from 0.14 mm², the spring is opened by means of the actuation lever. The actuation lever can be operated with all standard screwdrivers.
As with all other connection technologies from Phoenix Contact, the technical data of the push-in terminal blocks clearly exceeds the requirements of the relevant standards.
The gas-tight conductor contacting also fulfills special criteria such as the vibration test in accordance with railway standard EN 50155.

Terminal blocks with push-in connection, 0.14 - 1.5 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

PT 1,5/S

PT 1,5/S-PE

Common technical data	
Certification	
Connection cross section, push-in connection, solid	0.14 mm² - 1.5 mm²
Connection cross section, push-in connection	26 - 14 AWG
Width	3.5 mm
Length	45 mm
Height NS 35/7,5	32 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
500 V	17.5 A	600 V	15 A	gray	PT 1,5/S	3208100	50
500 V	17.5 A	600 V	15 A	blue	PT 1,5/S BU	3208126	50
-	-	-	-	green-yellow	PT 1,5/S-PE	3208139	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-PT 1,5/S	3208142	50
Jumper, 2-pos.	FBS 2-3,5	3213014	50
Jumper, 3-pos.	FBS 3-3,5	3213027	50
Jumper, 10-pos.	FBS 10-3,5	3213056	50
Partition plate, 2 mm width	ATP-ST 4	3030721	50
Screwdriver	SZF 0-0,4X2,5	1204504	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 3,5:UNBEDRUCKT	0829414	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 3,5:UNBEDRUCKT	0829392	10

Terminal blocks with push-in connection, 0.14 - 4 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

PT 2,5

PT 2,5-PE

Common technical data	
Certification	
Certification Ex	
Connection cross section, push-in connection, solid	0.14 mm² - 4 mm²
Connection cross section, push-in connection	26 - 12 AWG
Width	5.2 mm
Length	48.5 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
800 V	30 A (with 4 mm² conductor cross section)	600 V	20 A	gray	PT 2,5	3209510	50
800 V	30 A (with 4 mm² conductor cross section)	600 V	20 A	blue	PT 2,5 BU	3209523	50
-	-	-	-	green-yellow	PT 2,5-PE	3209536	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 2,5	3030417	50
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-ST 4	3030721	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10

Terminal blocks with push-in connection, 0.2 - 6 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

PT 4

PT 4-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, push-in connection, solid	0.2 mm² - 6 mm²
Connection cross section, push-in connection	24 - 10 AWG
Width	6.2 mm
Length	56 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	800 V	38 A (with 6 mm² conductor cross section)	600 V	30 A	gray	PT 4	3211757	50
	800 V	38 A (with 6 mm² conductor cross section)	600 V	30 A	blue	PT 4 BU	3211760	50
	-	-	-	-	green-yellow	PT 4-PE	3211766	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 4	3030420	50
Cover, 2.2 mm width, blue	D-ST 4 BU	3032295	50
Jumper, 2-pos.	FBS 2-6	3030336	50
Jumper, 3-pos.	FBS 3-6	3030242	50
Jumper, 10-pos.	FBS 10-6	3030271	10
Partition plate, 2 mm width	ATP-ST 4	3030721	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 6:UNBEDRUCKT	0808710	10

Terminal blocks with push-in connection, 0.5 - 10 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

PT 6

PT 6-PE

Common technical data	
Certification	
Connection cross section, push-in connection, solid	0.5 mm² - 10 mm²
Connection cross section, push-in connection	20 - 8 AWG
Width	8.2 mm
Length	57.7 mm
Height NS 35/7,5	43.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
1000 V	52 A (with 10 mm² conductor cross section)	600 V	40 A	gray	PT 6	3211813	50
1000 V	52 A (with 10 mm² conductor cross section)	600 V	40 A	blue	PT 6 BU	3211819	50
-	-	-	-	green-yellow	PT 6-PE	3211822	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-PT 6	3212044	50
Jumper, 2-pos.	FBS 2-8	3030284	10
Jumper, 3-pos.	FBS 3-8	3030297	10
Jumper, 10-pos.	FBS 10-8	3030323	10
Partition plate, 2 mm width	ATP-ST 6	3024481	50
Screwdriver	SZF 2-0,8X4,0	1204520	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 8:UNBEDRUCKT	1052002	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 8:UNBEDRUCKT	0808781	10

Three-conductor terminal blocks with push-in connection, 0.14 - 4 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

PT 2,5-TWIN

PT 2,5-TWIN-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, push-in connection, solid	0.14 mm² - 4 mm²
Connection cross section, push-in connection	26 - 12 AWG
Width	5.2 mm
Length	60.5 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	800 V	30 A (with 4 mm² conductor cross section)	600 V	20 A	gray	PT 2,5-TWIN	3209549	50
	800 V	30 A (with 4 mm² conductor cross section)	600 V	20 A	blue	PT 2,5-TWIN BU	3209552	50
	-	-	-	-	green-yellow	PT 2,5-TWIN-PE	3209565	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 2,5-TWIN	3030488	50
End cover segment, for covering multi-conductor terminal blocks when two-conductor terminal blocks are aligned	DS-ST 2,5	3036602	10
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-ST-TWIN	3030789	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10

Three-conductor terminal blocks with push-in connection, 0.2 - 6 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

PT 4-TWIN

PT 4-TWIN-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, push-in connection, solid	0.2 mm² - 6 mm²
Connection cross section, push-in connection	24 - 10 AWG
Width	6.2 mm
Length	66.5 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	800 V	38 A (In the case of a 6 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors)	600 V	30 A	gray	PT 4-TWIN	3211771	50
	800 V	38 A (In the case of a 6 mm² conductor cross section, the maximum load current must not be exceeded by the total current of all connected conductors)	600 V	30 A	blue	PT 4-TWIN BU	3211775	50
	-	-	-	-	green-yellow	PT 4-TWIN-PE	3211780	50

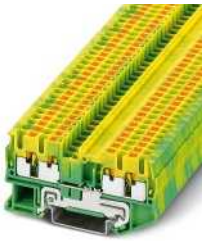
Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-PT 4-TWIN	3208977	50
Jumper, 2-pos.	FBS 2-6	3030336	50
Jumper, 3-pos.	FBS 3-6	3030242	50
Jumper, 10-pos.	FBS 10-6	3030271	10
Partition plate, 2 mm width	ATP-ST-TWIN	3030789	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 6:UNBEDRUCKT	0808710	10

Four-conductor terminal blocks with push-in connection, 0.14 - 4 mm²

Terminal block, for mounting on DIN rail NS 35/...
Ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

PT 2,5-QUATTRO



PT 2,5-QUATTRO-PE

Common technical data	
Certification	
Certification Ex	Ex:
Connection cross section, push-in connection, solid	0.14 mm² - 4 mm²
Connection cross section, push-in connection	26 - 12 AWG
Width	5.2 mm
Length	72.2 mm
Height NS 35/7,5	36.8 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
800 V	30 A (with 4 mm² conductor cross section)	600 V	20 A	gray	PT 2,5-QUATTRO	3209578	50
800 V	30 A (with 4 mm² conductor cross section)	600 V	20 A	blue	PT 2,5-QUATTRO BU	3209581	50
-	-	-	-	green-yellow	PT 2,5-QUATTRO-PE	3209594	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 2,5-QUATTRO	3030514	50
End cover segment, for covering multi-conductor terminal blocks when two-conductor terminal blocks are aligned	DS-ST 2,5	3036602	10
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-ST QUATTRO	3030815	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10

Disconnect terminal block with push-in connection, 0.14 - 4 mm²

Disconnect terminal block, for mounting on NS 35/... DIN rail

Technical data	
Certification	
Connection cross section, push-in connection, solid	0.14 mm² - 4 mm²
Connection cross section, push-in connection	26 - 12 AWG
Nominal voltage U_N	400 V
Max. load current	20 A (with 4 mm² conductor cross section)
UL rated voltage	300 V
UL nominal current	20 A
Width	5.2 mm
Length	62 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	gray

	Type	Order No.	Pcs. / Pkt.
	PT 2,5-TG	3210185	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-PT 2,5-MT	3211003	50
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-ST-TWIN	3030789	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10

Knife disconnect terminal blocks with push-in connection, 0.14 - 4 mm²

Knife disconnect terminal block, for mounting on DIN rail NS 35/...

PT 2,5-MT

PT 2,5-MT BU

Common technical data	
Certification	
Connection cross section, push-in connection, solid	0.14 mm² - 4 mm²
Connection cross section, push-in connection	26 - 12 AWG
Nominal voltage U_N	400 V
Max. load current	20 A (with 4 mm² conductor cross section)
UL rated voltage	300 V
UL nominal current	20 A
Width	5.2 mm
Length	62 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Color	Type	Order No.	Pcs. / Pkt.
gray	PT 2,5-MT	3210156	50
blue	PT 2,5-MT BU	3211650	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-PT 2,5-MT	3211003	50
Jumper, 2-pos.	FBS 2-5	3030161	50
Jumper, 3-pos.	FBS 3-5	3030174	50
Jumper, 10-pos.	FBS 10-5	3030213	10
Partition plate, 2 mm width	ATP-ST-TWIN	3030789	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10

Spring-cage connection terminal blocks

The ST spring-cage connection terminal blocks have been developed for universal spring-loaded conductor contacting. The high contact force guarantees a vibration-proof, gas-tight connection with long-term stability. The compact front connection facilitates convenient operation. The connection point is opened with a standard screwdriver. After the conductor has been inserted into the clamping space, the screwdriver is removed and the conductor automatically makes contact.

Terminal blocks with spring-cage connection, 0.08 - 1.5 mm²

Spring-cage terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

ST 1,5

ST 1,5-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, spring-cage connection, solid	0.08 mm² - 1.5 mm²
Connection cross section, spring-cage connection	28 - 16 AWG
Width	4.2 mm
Length	48.5 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
ClassNK	500 V	17.5 A (with 1.5 mm² conductor cross section)	300 V	15 A	gray	ST 1,5	3031076	50
ClassNK	500 V	17.5 A (with 1.5 mm² conductor cross section)	300 V	15 A	blue	ST 1,5 BU	3031089	50
ClassNK	-	-	-	-	green-yellow	ST 1,5-PE	3031513	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 2,5	3030417	50
Jumper, 2-pos.	FBS 2-4	3030116	50
Jumper, 3-pos.	FBS 3-4	3030129	50
Jumper, 10-pos.	FBS 10-4	3030158	10
Partition plate, 2 mm width	ATP-ST 4	3030721	50
Screwdriver	SZF 0-0,4X2,5	1204504	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 4:UNBEDRUCKT	0808587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 4 :UNBEDRUCKT	0805001	10

Terminal blocks with spring-cage connection, 0.08 - 4 mm²

Spring-cage terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

ST 2,5

ST 2,5-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, spring-cage connection, solid	0.08 mm² - 4 mm²
Connection cross section, spring-cage connection	28 - 12 AWG
Width	5.2 mm
Length	48.5 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
ABS ClassNK	800 V	31 A (with 4 mm² conductor cross section)	600 V	20 A	gray	ST 2,5	3031212	50
ABS ClassNK	800 V	31 A (with 4 mm² conductor cross section)	600 V	20 A	blue	ST 2,5 BU	3031225	50
ABS ClassNK	-	-	-	-	green-yellow	ST 2,5-PE	3031238	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 2,5	3030417	50
Jumper, 2-pos., 17.5 A	FBSR 2-5	3033702	50
Jumper, 10-pos., 17.5 A	FBSR 10-5	3033710	10
Partition plate, 2 mm width	ATP-ST 4	3030721	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Terminal blocks with spring-cage connection, 0.08 - 6 mm²

Spring-cage terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

ST 4

ST 4-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, spring-cage connection, solid	0.08 mm² - 6 mm²
Connection cross section, spring-cage connection	28 - 10 AWG
Width	6.2 mm
Length	56 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	800 V	40 A (with 6 mm² conductor cross section)	600 V	30 A	gray	ST 4	3031364	50
	800 V	40 A (with 6 mm² conductor cross section)	600 V	30 A	blue	ST 4 BU	3031377	50
	-	-	-	-	green-yellow	ST 4-PE	3031380	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 4	3030420	50
Jumper, 2-pos., 24 A	FBSR 2-6	3033715	50
Jumper, 10-pos., 24 A	FBSR 10-6	3033716	10
Partition plate, 2 mm width	ATP-ST 4	3030721	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 6:UNBEDRUCKT	0808710	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Terminal blocks with spring-cage connection, 0.2 - 10 mm²

Spring-cage terminal block, for mounting on DIN rail NS 35/...
Spring-cage ground terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

ST 6

ST 6-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, spring-cage connection, solid	0.2 mm² - 10 mm²
Connection cross section, spring-cage connection	24 - 8 AWG
Width	8.2 mm
Length	69.5 mm
Height NS 35/7,5	43.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	1000 V	52 A (with 10 mm² conductor cross section)	600 V	50 A	gray	ST 6	3031487	50
	1000 V	52 A (with 10 mm² conductor cross section)	600 V	50 A	blue	ST 6 BU	3031490	50
	-	-	-	-	green-yellow	ST 6-PE	3031500	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 6	3030433	50
Jumper, 2-pos., 32 A	FBSR 2-8	3033808	10
Jumper, 5-pos., 32 A	FBSR 5-8	3033809	10
Partition plate, 2 mm width	ATP-ST 6	3024481	50
Screwdriver	SZF 2-0,8X4,0	1204520	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 8:UNBEDRUCKT	0808781	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 8:UNBEDRUCKT	1052002	10

Three-conductor terminal blocks with spring-cage connection, 0.08 - 4 mm²

Spring-cage terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

ST 2,5-TWIN

ST 2,5-TWIN-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, spring-cage connection, solid	0.08 mm² - 4 mm²
Connection cross section, spring-cage connection	28 - 12 AWG
Width	5.2 mm
Length	60.5 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	800 V	28 A (with 4 mm² conductor cross section)	600 V	20 A	gray	ST 2,5-TWIN	3031241	50
	800 V	28 A (with 4 mm² conductor cross section)	600 V	20 A	blue	ST 2,5-TWIN BU	3031254	50
	-	-	-	-	green-yellow	ST 2,5-TWIN-PE	3031267	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 2,5-TWIN	3030488	50
Jumper, 2-pos., 17.5 A	FBSR 2-5	3033702	50
Jumper, 10-pos., 17.5 A	FBSR 10-5	3033710	10
Partition plate, 2 mm width	ATP-ST-TWIN	3030789	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Three-conductor terminal blocks with spring-cage connection, 0.08 - 6 mm²

Spring-cage terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

ST 4-TWIN

ST 4-TWIN-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, spring-cage connection, solid	0.08 mm² - 6 mm²
Connection cross section, spring-cage connection	28 - 10 AWG
Width	6.2 mm
Length	71.5 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	800 V	40 A (with 6 mm² conductor connection)	600 V	30 A	gray	ST 4-TWIN	3031393	50
	800 V	40 A (with 6 mm² conductor connection)	600 V	30 A	blue	ST 4-TWIN BU	3031403	50
	-	-	-	-	green-yellow	ST 4-TWIN-PE	3031416	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 4-TWIN	3030491	50
Jumper, 2-pos., 24 A	FBSR 2-6	3033715	50
Jumper, 10-pos., 24 A	FBSR 10-6	3033716	10
Partition plate, 2 mm width	ATP-ST-TWIN	3030789	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 6:UNBEDRUCKT	0808710	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Four-conductor terminal blocks with spring-cage connection, 0.08 - 4 mm²

Spring-cage terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

ST 2,5-QUATTRO

ST 2,5-QUATTRO-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, spring-cage connection, solid	0.08 mm² - 4 mm²
Connection cross section, spring-cage connection	28 - 12 AWG
Width	5.2 mm
Length	72 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	800 V	28 A (with 4 mm² conductor cross section)	600 V	20 A	gray	ST 2,5-QUATTRO	3031306	50
	800 V	28 A (with 4 mm² conductor cross section)	600 V	20 A	blue	ST 2,5-QUATTRO BU	3031319	50
	-	-	-	-	green-yellow	ST 2,5-QUATTRO-PE	3031322	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 2,5-QUATTRO	3030514	50
Jumper, 2-pos., 17.5 A	FBSR 2-5	3033702	50
Jumper, 10-pos., 17.5 A	FBSR 10-5	3033710	10
Partition plate, 2 mm width	ATP-ST QUATTRO	3030815	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Four-conductor terminal blocks with spring-cage connection, 0.08 - 6 mm²

Spring-cage terminal block, for mounting on DIN rail NS 35/...

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

ST 4-QUATTRO

ST 4-QUATTRO-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, spring-cage connection, solid	0.08 mm² - 6 mm²
Connection cross section, spring-cage connection	28 - 10 AWG
Width	6.2 mm
Length	87 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
	800 V	40 A (with 6 mm² conductor connection)	600 V	30 A	gray	ST 4-QUATTRO	3031445	50
	800 V	40 A (with 6 mm² conductor connection)	600 V	30 A	blue	ST 4-QUATTRO BU	3031458	50
	-	-	-	-	green-yellow	ST 4-QUATTRO-PE	3031461	50

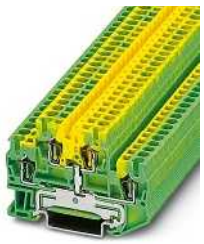
Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 4-QUATTRO	3030527	50
Jumper, 2-pos., 24 A	FBSR 2-6	3033715	50
Jumper, 10-pos., 24 A	FBSR 10-6	3033716	10
Partition plate, 2 mm width	ATP-ST QUATTRO	3030815	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 6:UNBEDRUCKT	0808710	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Double-level terminal blocks with spring-cage connection, 0.08 - 4 mm²

Spring-cage terminal block, for mounting on DIN rail NS 35
Spring-cage terminal block ...-PV, with equipotential bonding between the upper and the lower levels, for mounting on DIN rail NS 35
Spring-cage ground terminal block, for mounting on DIN rail NS 35

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

STTB 2,5



STTB 2,5-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, spring-cage connection, solid	0.08 mm² - 4 mm²
Connection cross section, spring-cage connection	28 - 12 AWG
Width	5.2 mm
Length	67.5 mm
Height NS 35/7,5	47.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
ClassNK	500 V	26 A (with 4 mm² conductor cross section)	600 V	20 A	gray	STTB 2,5	3031270	50
ClassNK	500 V	26 A (with 4 mm² conductor cross section)	600 V	20 A	blue	STTB 2,5 BU	3031283	50
	500 V	26 A (with 4 mm² conductor cross section)	600 V	20 A	gray	STTB 2,5-PV	3031539	50
	500 V	26 A (with 4 mm² conductor cross section)	600 V	20 A	blue	STTB 2,5-PV BU	3035108	50
ClassNK	-	-	-	-	green-yellow	STTB 2,5-PE	3036026	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-STTB 2,5	3030459	50
Jumper, 2-pos., 17.5 A	FBSR 2-5	3033702	50
Jumper, 10-pos., 17.5 A	FBSR 10-5	3033710	10
Partition plate, 2 mm width	ATP-STTB 4	3030747	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10

Double-level terminal blocks with spring-cage connection, 0.08 - 6 mm²

Spring-cage terminal block, for mounting on DIN rail NS 35
Spring-cage terminal block ...-PV, with equipotential bonding between the upper and the lower levels, for mounting on DIN rail NS 35
Spring-cage ground terminal block, for mounting on DIN rail NS 35

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

STTB 4

STTB 4-PE

Common technical data	
Certification Ex	Ex:
Connection cross section, spring-cage connection, solid	0.08 mm² - 6 mm²
Connection cross section, spring-cage connection	28 - 10 AWG
Width	6.2 mm
Length	83.5 mm
Height NS 35/7,5	47.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Nominal voltage U_N	Max. load current	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
ClassNK	500 V	32 A (with 6 mm² conductor cross section)	600 V	30 A	gray	STTB 4	3031429	50
ClassNK	500 V	32 A (with 6 mm² conductor cross section)	600 V	30 A	blue	STTB 4 BU	3031432	50
ClassNK	500 V	32 A (with 6 mm² conductor cross section)	600 V	30 A	gray	STTB 4-PV	3031542	50
ClassNK	-	-	-	-	green-yellow	STTB 4-PE	3036039	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-STTB 4	3030462	50
Jumper, 2-pos., 24 A	FBSR 2-6	3033715	50
Jumper, 10-pos., 24 A	FBSR 10-6	3033716	10
Partition plate, 2 mm width	ATP-STTB 4	3030747	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 6:UNBEDRUCKT	0808710	10

Fuse terminal blocks with spring-cage connection, 0.08 - 6 mm²

Fuse terminal block, ST 4-HESI (5 x 20), for mounting on DIN rail NS 35, for cartridge fuse inserts 5 x 20 mm
Fuse terminal block, ST 4-HESILA 250 (5 x 20), for mounting on DIN rail NS 35, for cartridge fuse inserts 5 x 20 mm, with LED

Observe the maximum power dissipation of the fuse insert used. Applicable to versions with LED: If the fuse is faulty, the downstream circuit will not be disconnected.

ST 4-HESI (5X20)

ST 4-HESILED 24 (5X20)

Common technical data	
Certification	
Connection cross section, spring-cage connection, solid	0.08 mm² - 6 mm²
Connection cross section, spring-cage connection	28 - 10 AWG
Max. load current	6.3 A (the current is determined by the fuse used)
UL rated voltage	300 V
UL nominal current	10 A
Width	6.2 mm
Length	61.5 mm
Height NS 35/7,5	62.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	black

	Nominal voltage U_N	Type	Order No.	Pcs. / Pkt.
For cartridge fuse inserts	500 V	ST 4-HESI (5X20)	3036369	50
With LED for 12–30 V AC/DC, 0.31–0.95 mA	24 V	ST 4-HESILED 24 (5X20)	3036547	50
With LED for 30–60 V AC/DC, 0.40–0.86 mA	60 V	ST 4-HESILED 60 (5X20)	3036550	50
with LED for 110–250 V AC/DC, 0.41–0.96 mA	250 V	ST 4-HESILA 250 (5X20)	3036563	50

Accessories	Type	Order No.	Pcs. / Pkt.
Jumper, 2-pos., 24 A	FBSR 2-6	3033715	50
Jumper, 10-pos., 24 A	FBSR 10-6	3033716	10
Partition plate, 2 mm width	ATP-ST 4	3030721	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 6:UNBEDRUCKT	0808710	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Disconnect terminal block with spring-cage connection, 0.08 - 6 mm²

Disconnect terminal block, for mounting on NS 35/... DIN rail

Technical data	
Certification	
Connection cross section, spring-cage connection, solid	0.08 mm² - 6 mm²
Connection cross section, spring-cage connection	28 - 10 AWG
Nominal voltage U_N	500 V
Max. load current	20 A (with 6 mm² conductor cross section)
Width	6.2 mm
Length	61.5 mm
Height NS 35/7,5	62.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	Black/orange

	Type	Order No.	Pcs. / Pkt.
	ST 4-HEDI	3035140	50

Accessories	Type	Order No.	Pcs. / Pkt.
Jumper, 2-pos., 24 A	FBSR 2-6	3033715	50
Jumper, 10-pos., 24 A	FBSR 10-6	3033716	10
Partition plate, 2 mm width	ATP-ST 4	3030721	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Disconnect terminal block with spring-cage connection, 0.08 - 4 mm²

Disconnect terminal block, for mounting on NS 35/... DIN rail

Observe the maximum power dissipation of the fuse insert used. Applicable to versions with LED: If the fuse is faulty, the downstream circuit will not be disconnected.

Technical data	
Certification	
Connection cross section, spring-cage connection, solid	0.08 mm² - 4 mm²
Connection cross section, spring-cage connection	28 - 12 AWG
Nominal voltage U_N	400 V (voltage is determined by the plug used)
Max. load current	20 A (with 4 mm² conductor cross section)
UL rated voltage	300 V
UL nominal current	16 A
Width	5.2 mm
Length	60.5 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	gray

Type	Order No.	Pcs. / Pkt.
ST 2,5-TG	3038435	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 2,5-TWIN	3030488	50
Jumper, 2-pos., 17.5 A	FBSR 2-5	3033702	50
Jumper, 10-pos., 17.5 A	FBSR 10-5	3033710	10
Partition plate, 2 mm width	ATP-ST-TWIN	3030789	50
Isolating plug	P-DI	3036783	50
Feed-through connector	P-FIX	3038956	50
Component plug, can be labeled with ZBF 5	P-CO	3036796	10
Fuse plug, for cartridge fuse inserts 5 x 20 mm	P-FU 5X20-5	3209235	10
Fuse plug, for cartridge fuse inserts 5 x 20 mm, with LED for 12-30 V AC/DC	P-FU 5X20 LED 24-5	3209248	10
Fuse plug, for cartridge fuse inserts 5 x 20 mm, with LED for 30-60 V AC/DC	P-FU 5X20 LED 60-5	3209251	10
Fuse plug, for cartridge fuse inserts 5 x 20 mm, with LED for 110-250 V AC/DC	P-FU 5X20 LED 250-5	3209264	10
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Knife disconnect terminal blocks with spring-cage connection, 0.08 - 4 mm²

Knife disconnect terminal block, for mounting on DIN rail NS 35/...

Common technical data	
Certification	
Connection cross section, spring-cage connection, solid	0.08 mm² - 4 mm²
Connection cross section, spring-cage connection	28 - 12 AWG
Nominal voltage U_N	400 V
Max. load current	20 A (with 4 mm² conductor cross section)
UL rated voltage	600 V
UL nominal current	16 A
Width	5.2 mm
Length	60.5 mm
Height NS 35/7,5	36.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Color	Type	Order No.	Pcs. / Pkt.
gray	ST 2,5-MT	3036343	50
blue	ST 2,5-MT BU	3037818	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-ST 2,5-TWIN	3030488	50
Jumper, 2-pos., 17.5 A	FBSR 2-5	3033702	50
Jumper, 10-pos., 17.5 A	FBSR 10-5	3033710	10
Partition plate, 2 mm width	ATP-ST-TWIN	3030789	50
Screwdriver	SZF 1-0,6X3,5	1204517	10
Zack marker strip, flat, unprinted, 10-section, for labeling by the customer	ZBF 5:UNBEDRUCKT	0808642	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Universal modular terminal blocks with screw connection

The universal modular terminal block series with screw connection has the following typical features, which are decisive for practical applications:
– Thanks to the universal foot, it can be used on NS 35 and NS 32 DIN rails
– Closed screw shafts for optimum screwdriver guidance
– Uniform accessories, e.g., end covers, partition plates, etc., covering a wide range of cross sections
– Potential distribution either via fixed bridges in the terminal center or insertion bridges in the clamping space
– Ground and neutral disconnect terminal blocks of the same shape
– Uniform marking methods with the ZB... marking system

Universal terminal blocks with screw connection, 0.2 - 4 mm²

Terminal block, for mounting on DIN rail NS 35 and NS 32

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.2 mm² - 4 mm²
Connection cross section, screw connection	24 - 12 AWG
Nominal voltage U_N	800 V
Max. load current	24 A (with 2.5 mm² conductor cross section)
UL rated voltage	300 V
UL nominal current	20 A
Tightening torque	0.6 Nm - 0.8 Nm
Width	5.2 mm
Length	42.5 mm
Height NS 35/7,5	42 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V2

Certification	Color	Type	Order No.	Pcs. / Pkt.
CCA	gray	UK 2,5 N	3003347	50
CCA	blue	UK 2,5 N BU	3003350	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 1.5 mm width	D-UK 2,5	3001022	50
Cover, 1.5 mm width, blue	D-UK 2,5 BU	3001103	50
Fixed bridge, 10-pos.	FBRI 10-5 N	2770642	10
Insertion bridge, 10-pos.	EBL 10- 5	2303132	10
Separating plate, for electrical isolation of neighboring bridges, no loss of pitch	TS-KK 3	2770215	50
Partition plate, 1.5 mm width	ATP-UK	3003224	50
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Universal ground terminal block with screw connection, 0.2 - 4 mm²

Ground terminal block, for mounting on DIN rail NS 35 and NS 32

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

Technical data	
Certification	CCA
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.2 mm² - 4 mm²
Connection cross section, screw connection	24 - 12 AWG
Tightening torque	0.6 Nm - 0.8 Nm
Width	5.2 mm
Length	42.5 mm
Height NS 35/7,5	42 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	green-yellow

	Type	Order No.	Pcs. / Pkt.
	USLKG 2,5 N	0441119	50

Accessories	Type	Order No.	Pcs. / Pkt.
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Universal terminal blocks with screw connection, 0.2 - 6 mm²

Terminal block, for mounting on DIN rail NS 35 and NS 32

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

Common technical data	
Connection cross section, screw connection, solid	0.2 mm² - 6 mm²
Connection cross section, screw connection	24 - 10 AWG
Nominal voltage U_N	800 V
Max. load current	41 A (with 6 mm² conductor cross section)
UL rated voltage	600 V
UL nominal current	30 A
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	42.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Certification Ex	Color	Type	Order No.	Pcs. / Pkt.
CCA	Ex:	gray	UK 5 N	3004362	50
CCA	Ex:	blue	UK 5 N BU	3004388	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 1.8 mm width	D-UK 4/10	3003020	50
Cover, 1.8 mm width, blue	D-UK 4/10 BU	3003101	50
Fixed bridge, 10-pos.	FBI 10- 6	0203250	10
Insertion bridge, 2-pos.	EB 2- 6	0201155	100
Insertion bridge, 3-pos.	EB 3- 6	0201142	100
Insertion bridge, 10-pos.	EB 10- 6	0201139	10
Separating plate, for electrical isolation of neighboring bridges, no loss of pitch	TS-K	1302215	50
Partition plate, 1.5 mm width	ATP-UK	3003224	50
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Universal ground terminal block with screw connection, 0.2 - 6 mm²

Ground terminal block, for mounting on DIN rail NS 35 and NS 32

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

Technical data	
Certification	CCA
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.2 mm² - 6 mm²
Connection cross section, screw connection	24 - 10 AWG
Nominal voltage U_N	800 V
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	42.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	green-yellow

Type	Order No.	Pcs. / Pkt.
USLKG 5	0441504	50

Accessories	Type	Order No.	Pcs. / Pkt.
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Universal terminal blocks with screw connection, 0.2 - 10 mm²

Terminal block, for mounting on DIN rail NS 35 and NS 32

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

Common technical data	
Connection cross section, screw connection, solid	0.2 mm² - 10 mm²
Connection cross section, screw connection	24 - 8 AWG
Nominal voltage U_N	800 V
Max. load current	57 A (with 10 mm² conductor cross section)
UL rated voltage	600 V
UL nominal current	50 A
Tightening torque	1.5 Nm - 1.8 Nm
Width	8.2 mm
Length	42.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Certification Ex	Color	Type	Order No.	Pcs. / Pkt.
CCA	Ex:	gray	UK 6 N	3004524	50
CCA	Ex:	blue	UK 6 N BU	3004977	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 1.8 mm width	D-UK 4/10	3003020	50
Cover, 1.8 mm width, blue	D-UK 4/10 BU	3003101	50
Fixed bridge, 10-pos.	FBI 10- 8	0203263	10
Insertion bridge, 10-pos.	EB 10- 8	0202138	10
Separating plate, for electrical isolation of neighboring bridges, no loss of pitch	TS-K	1302215	50
Partition plate, 1.5 mm width	ATP-UK	3003224	50
Screwdriver	SZS 1,0X4,0 VDE	1205066	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 8:UNBEDRUCKT	1052002	10

Universal ground terminal block with screw connection, 0.2 - 10 mm²

Ground terminal block, for mounting on DIN rail NS 35 and NS 32

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

Technical data	
Certification	CCA
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.2 mm² - 10 mm²
Connection cross section, screw connection	24 - 8 AWG
Tightening torque	1.5 Nm - 1.8 Nm
Width	8.2 mm
Length	42.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	green-yellow

	Type	Order No.	Pcs. / Pkt.
	USLKG 6 N	0442079	50

Accessories	Type	Order No.	Pcs. / Pkt.
Screwdriver	SZS 1,0X4,0 VDE	1205066	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 8:UNBEDRUCKT	1052002	10

Universal terminal blocks with screw connection, 0.5 - 16 mm²

Terminal block, for mounting on DIN rail NS 35 and NS 32

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.5 mm² - 16 mm²
Connection cross section, screw connection	20 - 6 AWG
Nominal voltage U_N	800 V
Max. load current	76 A (with 16 mm² conductor cross section)
UL rated voltage	600 V
UL nominal current	65 A
Tightening torque	1.5 Nm - 1.8 Nm
Width	10.2 mm
Length	42.5 mm
Height NS 35/7,5	47.3 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Color	Type	Order No.	Pcs. / Pkt.
CCA	gray	UK 10 N	3005073	50
CCA	blue	UK 10 N BU	3005086	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 1.8 mm width	D-UK 4/10	3003020	50
Cover, 1.8 mm width, blue	D-UK 4/10 BU	3003101	50
Fixed bridge, 10-pos.	FBI 10-10	0203276	10
Insertion bridge, 2-pos.	EB 2-10	0203153	100
Insertion bridge, 3-pos.	EB 3-10	0203328	10
Insertion bridge, 10-pos.	EB 10-10	0203137	10
Separating plate, for electrical isolation of neighboring bridges, no loss of pitch	TS-K	1302215	50
Partition plate, 1.5 mm width	ATP-UK	3003224	50
Screwdriver	SZS 1,0X4,0 VDE	1205066	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 10:UNBEDRUCKT	1053001	10

Universal ground terminal block with screw connection, 0.5 - 16 mm²

Ground terminal block, for mounting on DIN rail NS 35 and NS 32

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

Technical data	
Certification	CCA
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.5 mm² - 16 mm²
Connection cross section, screw connection	20 - 6 AWG
Max. load current	76 A (with 16 mm² conductor cross section)
Tightening torque	1.5 Nm - 1.8 Nm
Width	10.2 mm
Length	42.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	green-yellow

	Type	Order No.	Pcs. / Pkt.
	USLKG 10 N	3003923	50

Accessories	Type	Order No.	Pcs. / Pkt.
Screwdriver	SZS 1,0X4,0 VDE	1205066	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 10:UNBEDRUCKT	1053001	10

Three-conductor universal terminal blocks with screw connection, 0.2 - 2.5 mm²

Terminal block, for mounting on DIN rail NS 35 and NS 32

Common technical data	
Connection cross section, screw connection, solid	0.2 mm² - 2.5 mm²
Connection cross section, screw connection	24 - 14 AWG
Nominal voltage U_N	400 V
Max. load current	24 A (with 2.5 mm² conductor cross section)
UL rated voltage	300 V
UL nominal current	20 A
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	50.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Color	Type	Order No.	Pcs. / Pkt.
CCA	gray	UK 3-TWIN	3002225	50
CCA	blue	UK 3-TWIN BU	3002416	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 2 mm width	D-UK 5-TWIN	1923034	50
Cover, 2 mm width, blue	D-UK 5-TWIN BU	1923050	50
Fixed bridge, 10-pos.	FBRI 10-5 N	2770642	10
Insertion bridge, 2-pos.	EBL 2- 5	2303145	10
Insertion bridge, 3-pos.	EBL 3- 5	2303158	10
Insertion bridge, 10-pos.	EBL 10- 5	2303132	10
Separating plate, for electrical isolation of neighboring bridges, no loss of pitch	TS-K	1302215	50
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Three-conductor universal ground terminal block with screw connection, 0.2 - 2.5 mm²

Ground terminal block, for mounting on DIN rail NS 35 and NS 32

Technical data	
Certification	
Connection cross section, screw connection, solid	0.2 mm² - 2.5 mm²
Connection cross section, screw connection	24 - 14 AWG
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	50.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	green-yellow

	Type	Order No.	Pcs. / Pkt.
	UK 3-TWIN-PE	1923128	50

Accessories	Type	Order No.	Pcs. / Pkt.
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Three-conductor universal terminal blocks with screw connection, 0.2 - 4 mm²

Terminal block, for mounting on DIN rail NS 35 and NS 32

For installation information for using the accessories for Ex e applications, please refer to the ordering data in the online catalog: **phoenixcontact.net/products**

Common technical data	
Certification Ex	Ex:
Connection cross section, screw connection, solid	0.2 mm² - 4 mm²
Connection cross section, screw connection	24 - 12 AWG
Nominal voltage U_N	500 V (With tightened clamping screws)
Max. load current	32 A (with 4 mm² conductor cross section)
UL rated voltage	300 V
UL nominal current	30 A
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	50.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V2

Certification	Color	Type	Order No.	Pcs. / Pkt.
ClassNK CCA	gray	UK 5-TWIN	1923021	50
	blue	UK 5-TWIN BU	1923047	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 2 mm width	D-UK 5-TWIN	1923034	50
Cover, 2 mm width, blue	D-UK 5-TWIN BU	1923050	50
Fixed bridge, 10-pos.	FBI 10- 6	0203250	10
Insertion bridge, 2-pos.	EB 2- 6	0201155	100
Insertion bridge, 3-pos.	EB 3- 6	0201142	100
Insertion bridge, 10-pos.	EB 10- 6	0201139	10
Separating plate, for electrical isolation of neighboring bridges, no loss of pitch	TS-K	1302215	50
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Three-conductor universal ground terminal block with screw connection, 0.2 - 4 mm²

Ground terminal block, for mounting on DIN rail NS 35 and NS 32

Technical data	
Certification	ClassNK CCA
Connection cross section, screw connection, solid	0.2 mm² - 4 mm²
Connection cross section, screw connection	24 - 12 AWG
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	50.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V2
Color	green-yellow

	Type	Order No.	Pcs. / Pkt.
	UK 5-TWIN-PE	1923076	50

Accessories	Type	Order No.	Pcs. / Pkt.
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Four-conductor universal terminal blocks with screw connection, 0.2 - 4 mm²

Terminal block, for mounting on DIN rail NS 35 and NS 32

Common technical data	
Certification	
Connection cross section, screw connection, solid	0.2 mm² - 4 mm²
Connection cross section, screw connection	24 - 12 AWG
Nominal voltage U_N	500 V
Max. load current	32 A (with 4 mm² conductor cross section)
UL rated voltage	300 V
UL nominal current	20 A
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	63.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V2

Color	Type	Order No.	Pcs. / Pkt.
gray	UDK 3	2775375	50
blue	UDK 3 BU	2718277	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 1.5 mm width	D-UDK 4	2775113	50
Cover, 1.5 mm width, blue	D-UDK 4 BU	2775197	50
Fixed bridge, 2-pos.	FBRI 2-5 N	3000227	10
Fixed bridge, 3-pos.	FBRI 3-5 N	3000201	10
Fixed bridge, 10-pos.	FBRI 10-5 N	2770642	10
Insertion bridge, 2-pos.	EBL 2- 5	2303145	10
Insertion bridge, 3-pos.	EBL 3- 5	2303158	10
Insertion bridge, 10-pos.	EBL 10- 5	2303132	10
Separating plate, for electrical isolation of neighboring bridges, no loss of pitch	TS-KK 3	2770215	50
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Four-conductor universal ground terminal block with screw connection, 0.2 - 4 mm²

Ground terminal block, for mounting on DIN rail NS 35 and NS 32

Technical data	
Certification	
Connection cross section, screw connection, solid	0.2 mm² - 4 mm²
Connection cross section, screw connection	24 - 12 AWG
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	63.5 mm
Height NS 35/7,5	47 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V2
Color	green-yellow

	Type	Order No.	Pcs. / Pkt.
	UDK 3-PE	2775456	50

Accessories	Type	Order No.	Pcs. / Pkt.
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Four-conductor universal terminal blocks with screw connection, 0.2 - 6 mm²

Terminal block, for mounting on DIN rail NS 35 and NS 32

Common technical data	
Connection cross section, screw connection, solid	0.2 mm² - 6 mm²
Connection cross section, screw connection	24 - 10 AWG
Nominal voltage U_N	630 V
Max. load current	32 A (with 6 mm² conductor cross section)
UL rated voltage	600 V
UL nominal current	30 A
Tightening torque	0.5 Nm - 0.6 Nm
Width	6.2 mm
Length	63.5 mm
Height NS 35/7,5	47 mm
No. of pos.	1
Insulation material / Inflammability class in acc. with UL 94	PA / V2

Certification	Color	Type	Order No.	Pcs. / Pkt.
	gray	UDK 4	2775016	50
	blue	UDK 4 BU	2775090	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 1.5 mm width	D-UDK 4	2775113	50
Cover, 1.5 mm width, blue	D-UDK 4 BU	2775197	50
Fixed bridge, 10-pos.	FBI 10- 6	0203250	10
Insertion bridge, 2-pos.	EB 2- 6	0201155	100
Insertion bridge, 3-pos.	EB 3- 6	0201142	100
Insertion bridge, 10-pos.	EB 10- 6	0201139	10
Separating plate, for electrical isolation of neighboring bridges, no loss of pitch	TS-KK 3	2770215	50
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Four-conductor universal ground terminal block with screw connection, 0.2 - 6 mm²

Ground terminal block, for mounting on DIN rail NS 35 and NS 32

Technical data	
Certification	
Connection cross section, screw connection, solid	0.2 mm² - 6 mm²
Connection cross section, screw connection	24 - 10 AWG
Tightening torque	0.5 Nm - 0.6 Nm
Width	6.2 mm
Length	63.5 mm
Height NS 35/7,5	47 mm
No. of pos.	1
Insulation material / Inflammability class in acc. with UL 94	PA / V2
Color	green-yellow

	Type	Order No.	Pcs. / Pkt.
	UDK 4-PE	2775184	50

Accessories	Type	Order No.	Pcs. / Pkt.
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Double-level universal terminal blocks with screw connection, 0.2 - 4 mm²

Double-level terminal block, for mounting on DIN rail NS 35 and NS 32

Common technical data	
Connection cross section, screw connection, solid	0.2 mm² - 4 mm²
Connection cross section, screw connection	24 - 12 AWG
Nominal voltage U_N	500 V
Max. load current	32 A (with 4 mm² conductor cross section)
UL rated voltage	600 V
UL nominal current	20 A
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	56 mm
Height NS 35/7,5	62 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	Color	Type	Order No.	Pcs. / Pkt.
CCA	gray	UKK 3	2770011	50
	blue	UKK 3 BU	2770095	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 2.5 mm width	D-UKK 3/5	2770024	50
Cover, 2.5 mm width, blue	D-UKKB 3/5 BU	2771104	50
Spacer plate, compensates for the level offset, 2.5 mm thick	DP-UKK 3/5	2770794	50
Fixed bridge, 2-pos., insulated	FBRNI 2-5 N	3000175	10
Fixed bridge, 3-pos., insulated	FBRNI 3-5 N	3000162	10
Fixed bridge, 4-pos., insulated	FBRNI 4-5 N	3000159	10
Insertion bridge, 10-pos.	EBL 10- 5	2303132	10
Separating plate, for electrical isolation of neighboring bridges, no loss of pitch	TS-KK 3	2770215	50
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

Double-level universal terminal blocks with screw connection, 0.2 - 4 mm²

Double-level terminal block, for mounting on NS 35 and NS 32 DIN rail
...-PV double-level terminal block, with equipotential bonding between the upper and lower levels, for mounting on NS 35 and NS 32 DIN rail

UKK 5

UKK 5-PV

Common technical data	
Connection cross section, screw connection, solid	0.2 mm² - 4 mm²
Connection cross section, screw connection	24 - 12 AWG
Nominal voltage U_N	500 V
Max. load current	32 A (with 4 mm² conductor cross section)
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	56 mm
Height NS 35/7,5	62 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

Certification	UL rated voltage	UL nominal current	Color	Type	Order No.	Pcs. / Pkt.
CCA	600 V	30 A	gray	UKK 5	2774017	50
CCA	600 V	30 A	blue	UKK 5 BU	2774091	50
	300 V	15 A	gray	UKK 5-PV	2791388	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 2.5 mm width	D-UKK 3/5	2770024	50
Cover, 2.5 mm width, blue	D-UKKB 3/5 BU	2771104	50
Spacer plate, compensates for the level offset, 2.5 mm thick	DP-UKK 3/5	2770794	50
Fixed bridge, 2-pos., insulated	FBRNI 2-5 N	3000175	10
Fixed bridge, 3-pos., insulated	FBRNI 3-5 N	3000162	10
Fixed bridge, 4-pos., insulated	FBRNI 4-5 N	3000159	10
Insertion bridge, 10-pos.	EBL 10- 5	2303132	10
Separating plate, for electrical isolation of neighboring bridges, no loss of pitch	TS-KK 3	2770215	50
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Double-level universal ground terminal block with screw connection, 0.2 - 4 mm²

Double-level terminal block, for mounting on DIN rail NS 35 and NS 32

Technical data	
Certification	
Connection cross section, screw connection, solid	0.2 mm² - 4 mm²
Connection cross section, screw connection	24 - 12 AWG
Tightening torque	0.6 Nm - 0.8 Nm
Width	6.2 mm
Length	56 mm
Height NS 35/7,5	62 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V2
Color	green-yellow

	Type	Order No.	Pcs. / Pkt.
	UKK 5-PE	2774211	50

Accessories	Type	Order No.	Pcs. / Pkt.
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 6:UNBEDRUCKT	1051003	10

Fuse terminal blocks with screw connection, 0.2 - 6 mm²

...-HESI fuse terminal block, for mounting on NS 35 DIN rail, for 5 x 20 mm cartridge fuse inserts
...HESILA 250 fuse terminal block, for mounting on NS 35 DIN rail, for 5 x 20 mm cartridge fuse inserts, with LED

UK 5-HESI N

UK 5-HESILA 250 N

Common technical data	
Connection cross section, screw connection, solid	0.2 mm² - 6 mm²
Connection cross section, screw connection	24 - 10 AWG
Nominal voltage U_N	500 V (As a fuse terminal block)
Max. load current	6.3 A (the current is determined by the fuse used)
Tightening torque	0.6 Nm - 0.8 Nm
Width	8.2 mm
Length	58 mm
Height NS 35/7,5	50 mm
No. of pos.	1
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	black

	Type	Order No.	Pcs. / Pkt.
-	UK 5-HESI N	3000539	50
With LED for 24 V	UK 5-HESILED 24 N	3000540	50
With LED for 60 V	UK 5-HESILED 60 N	3000541	50
With LED for 250 V	UK 5-HESILA 250 N	3000542	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UK 5-HESI N	3000543	50
Insertion bridge, 2-pos.	EBS 2- 8	3118151	100
Insertion bridge, 3-pos.	EBS 3- 8	3118148	50
Insertion bridge, 10-pos.	EBS 10- 8	3118135	10
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 8:UNBEDRUCKT	1052002	10

Lever-type disconnect terminal block with screw connection, 0.2 - 6 mm²

Lever-type disconnect terminal block, for mounting on NS 35 DIN rail

Technical data	
Certification	
Connection cross section, screw connection, solid	0.2 mm² - 6 mm²
Connection cross section, screw connection	24 - 10 AWG
Nominal voltage U_N	500 V
Max. load current	16 A (with 4 mm² conductor cross section)
Tightening torque	0.6 Nm - 0.8 Nm
Width	8.2 mm
Length	58 mm
Height NS 35/7,5	57.5 mm
No. of pos.	1
Insulation material / Inflammability class in acc. with UL 94	PA / V0
Color	Black/orange

	Type	Order No.	Pcs. / Pkt.
	UK 5-HEDI N	3000564	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, width 2.2 mm	D-UK 5-HESI N	3000543	50
Insertion bridge, 2-pos.	EBS 2- 8	3118151	100
Insertion bridge, 3-pos.	EBS 3- 8	3118148	50
Insertion bridge, 10-pos.	EBS 10- 8	3118135	10
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 8:UNBEDRUCKT	1052002	10

Knife disconnect terminal blocks with screw connection, 0.2 - 4 mm²

Knife disconnect terminal block, for mounting on NS 35 and NS 32 DIN rail

MTK

MTK-P/P

Common technical data	
Connection cross section, screw connection, solid	0.2 mm² - 4 mm²
Connection cross section, screw connection	24 - 12 AWG
Nominal voltage U_N	400 V
Max. load current	16 A (with 4 mm² conductor cross section)
UL rated voltage	300 V
UL nominal current	10 A
Tightening torque	0.5 Nm - 0.6 Nm
Width	5.2 mm
Length	46 mm
Height NS 35/7,5	51.5 mm
Insulation material / Inflammability class in acc. with UL 94	PA / V0

	Certification	Color	Type	Order No.	Pcs. / Pkt.
-		gray	MTK	3101016	50
-		blue	MTK BU	3101197	50
With test socket screws on both sides		gray	MTK-P/P	3104013	50
With test socket screws on both sides		blue	MTK-P/P BU	3104097	50

Accessories	Type	Order No.	Pcs. / Pkt.
Cover, 1 mm width	D-MTK	3101029	50
Cover, 1 mm width, blue	D-MTK BU	3101090	50
Insertion bridge, 10-pos.	EBL 10- 5	2303132	10
Screwdriver	SF-SL 0,6X3,5-100 S-VDE	1212587	10
Zack marker strip, unprinted, 10-section, for labeling by the customer	ZB 5 :UNBEDRUCKT	1050004	10

4

Sensor/actuator cabling and industrial connectors

Ethernet cables

Specially developed for industrial applications, assembled Ethernet cables and Ethernet cables for free assembly round off the range, providing a complete installation concept for industrial use. You can choose between 2 and 4-pair cables in CAT5 or CAT6 depending on the application.

QPD installation system

Industrial power distribution does not have to be time-consuming or complicated. The robust IP68/IP69K installation system for capacities up to 690 V/20 A from Phoenix Contact is proof of this.

Thanks to the proven QUICKON IDC fast connection, cables of up to 5 x 2.5 mm² can be connected quickly and easily, without the need for stripping or special tools.

The system, which consists of H-distributors, panel feed-throughs, connectors, and cable connectors, offers a wide range of options for power distribution in industrial environments and building installation.

HEAVYCON EVO heavy-duty connectors

HEAVYCON EVO made from fiberglass-reinforced polyamide is the inexpensive alternative to die-cast aluminum housing. The corresponding cable glands with swivel bayonet locking reduce overall warehousing by 70% and are also fully compatible with HEAVYCON standard die-cast aluminum housing. The capacitive PE design ensures conformance with standards.

CES cable entry system

Cable entry systems are in increasing demand as an efficient alternative to heavy-duty connectors and cable glands. They can be used to route assembled cables directly into the control cabinet, to devices, and onto DIN rails without an additional plug-in connection. With the CES cable entry system, Phoenix Contact offers a well-designed system solution from system and field cabling to the DIN rail.

Product range overview

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Ethernet cables

Specially developed for industrial applications, assembled Ethernet cables and Ethernet cables for free assembly round off the range, providing a complete installation concept for industrial use. You can choose between 2 and 4-pair cables in CAT5 or even CAT6 depending on the application.

Ethernet cable, CAT5e, 2-pair

Technical data	
Assembly	R4MC -> R4MC
Length	5 m
Transmission properties	CAT5 (IEC 11801:2002), CAT5e (TIA 568B:2001)
Cable structure	2x2xAWG26/7; SF/UTP
Conductor cross section	0.14 mm²

Type	Order No.	Pcs. / Pkt.
VS-IP67-IP67-93E-LI/5,0	1406137	1

Ethernet cable, CAT5e, IP20 and IP67

VS-IP20-IP20-94B-LI/5,0

VS-IP67-IP67-94B-LI/5,0

Common technical data	
Length	5 m
Cable structure	4x2xAWG26/7; S/FTP
Conductor cross section	0.14 mm²

Assembly	Transmission properties	Type	Order No.	Pcs. / Pkt.
R4AC -> R4AC	-	VS-IP20-IP20-94B-LI/5,0	1407903	1
R4MC -> R4AC	-	VS-IP67-IP20-94B-LI/5,0	1407932	1
R4MC -> R4MC	CAT5	VS-IP67-IP67-94B-LI/5,0	1412118	1

Ethernet cable, CAT6, IP20 and IP67

VS-IP20-IP20-94F-LI/2,0

VS-IP67-IP67-94F-LI/5,0

Common technical data	
Transmission properties	CAT6
Cable structure	4x2xAWG26/7; S/FTP
Conductor cross section	0.14 mm²

Assembly	Length	Type	Order No.	Pcs. / Pkt.
IP20 -> IP20	2 m	VS-IP20-IP20-94F-LI/2,0	1415458	1
IP67 -> IP20	5 m	VS-IP67-IP20-94F-LI/5,0	1415490	1
IP67 -> IP67	5 m	VS-IP67-IP67-94F-LI/5,0	1415649	1

Patch cable, CAT6A

Common technical data	
Assembly	R4AC -> R4AC
Transmission properties	$CAT6_A$
IN	0.5 A
U_N	48 V
Cable structure	4x2xAWG26/7; S/FTP
Conductor cross section	0.14 mm^2

Length	Type	Order No.	Pcs. / Pkt.
1 m	VS-IP20/10G-IP20/10G-94F/1	1418866	1
5 m	VS-IP20/10G-IP20/10G-94F/5	1418879	1

QPD installation system

The QPD installation system includes all major components for power distribution in buildings. These include extremely robust and compact H-distributors, cable connectors, and panel feed-throughs for control cabinets or devices.

The main advantages are:

– Considerable time savings during on-site connection since cable wires no longer have to be stripped
– Easy assembly without special tools
– High reliability thanks to proven connection contacts
– Robust housing with up to IP68 protection

H-distributor, 2.5 mm²

H-distributor, black, **3+PE-pos.,** with four QUICKON nuts and one sealing bolt

QPD H 3PE2,5 6-10 BK

QPD H 3PE2,5 9-14 BK

Common technical data	
Number of positions	4
Rated voltage (III/3)	690 V
Rated current	20 A
Housing material	PA
Degree of protection	IP68/IP69K
Core insulation	PVC / PE
Litz wire structure / smallest wire diameter	VDE 0295 class 1 to 6 / min. 0.15 mm
Conductor cross section solid / stranded	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²

Ambient temperature (operation)	Cable diameter	Type	Order No.	Pcs. / Pkt.
-40 °C ... 80 °C (See also derating diagram)	6 mm ... 10 mm	QPD H 3PE2,5 6-10 BK	1582145	1
-	9 mm ... 14 mm	QPD H 3PE2,5 9-14 BK	1582148	1

Accessories	Type	Order No.	Pcs. / Pkt.
Mounting clip, for QUICKON H-distributor, color: black	QPD CLIP 2,5 BK	1582235	10
Sealing bolt, for sealing unused holes in multiple seals, hole diameter of 9 mm	VC-KV-VB 9	1647585	10
Sealing bolt, for sealing unused holes in multiple seals, hole diameter of 13 mm	VC-KV-VB13	1647608	10

Cable connector, 0.14 mm² ... 0.34 mm²

Cable connector, black, **3+PE-pos.**

Technical data	
Number of positions	4
Rated voltage (III/3)	125 V
Rated current	5 A
Housing material	PA
Degree of protection	IP65/67
Core insulation	PVC / PE
Litz wire structure / smallest wire diameter	VDE 0295 class 1 to 6 / min. 0.10 mm
Conductor cross section solid / stranded	0.14 mm² ... 0.25 mm² / 0.14 mm² ... 0.34 mm²
Ambient temperature (operation)	-40 °C ... 80 °C (specifications of the cable manufacturer must also be observed)
Cable diameter	3.5 mm ... 6 mm

Type	Order No.	Pcs. / Pkt.
Q 0,34/4IDC/16-16KU-KU BK	1641879	1

Cable connector, 0.34 mm² ... 0.75 mm²

Cable connector, black, **3+PE-pos.**

Technical data	
Number of positions	4
Rated voltage (III/3)	250 V
Rated current	9 A
Housing material	PA
Degree of protection	IP65/67
Core insulation	PVC / PE
Litz wire structure / smallest wire diameter	VDE 0295 class 1 to 6 / min. 0.15 mm
Conductor cross section solid / stranded	0.34 mm² ... 0.5 mm² / 0.34 mm² ... 0.75 mm²
Ambient temperature (operation)	-40 °C ... 80 °C (specifications of the cable manufacturer must also be observed)
Cable diameter	4 mm ... 8 mm

Type	Order No.	Pcs. / Pkt.
Q 0,75/4IDC/18-18KU-KU BK	1642140	1

Cable connector, 0.75 mm² ... 1.5 mm²

Cable connector, black, **3+PE-pos.**

Technical data	
Number of positions	4
Rated voltage (III/3)	500 V
Rated current	15 A
Housing material	PA
Degree of protection	IP65/67
Core insulation	PVC / PE
Litz wire structure / smallest wire diameter	VDE 0295 class 1 to 6 / min. 0.15 mm
Conductor cross section solid / stranded	0.75 mm² ... 1 mm² / 0.75 mm² ... 1.5 mm²
Ambient temperature (operation)	-40 °C ... 80 °C (specifications of the cable manufacturer must also be observed)
Cable diameter	6 mm ... 12 mm

Type	Order No.	Pcs. / Pkt.
Q 1,5/4IDC/24-24KU-KU BK	1642153	1

Cable connector, 1.0 mm² ... 2.5 mm²

Cable connector, black, **3+PE-pos.**

Common technical data	
Number of positions	4
Rated voltage (III/3)	690 V
Rated current	20 A
Housing material	PA
Degree of protection	IP68/IP69K
Core insulation	PVC / PE
Litz wire structure / smallest wire diameter	VDE 0295 class 1 to 6 / min. 0.15 mm
Conductor cross section solid / stranded	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²
Ambient temperature (operation)	-40 °C ... 80 °C

Cable diameter	Type	Order No.	Pcs. / Pkt.
6 mm ... 10 mm	QPD C 3PE2,5 2X6-10 BK	1582211	1
9 mm ... 14 mm	QPD C 3PE2,5 2X9-14 BK	1582214	1

Connector, 2.5 mm²

Connector, black, **3+PE-pos.**

QPD P 3PE2,5 6-10 BK

QPD P 3PE2,5 9-14 BK

Common technical data	
Number of positions	4
Rated voltage (III/3)	690 V
Rated current	20 A
Housing material	PA
Degree of protection	IP68/IP69K
Core insulation	PVC / PE
Litz wire structure / smallest wire diameter	VDE 0295 class 1 to 6 / min. 0.15 mm
Conductor cross section solid / stranded	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²
Ambient temperature (operation)	-40 °C ... 80 °C

Cable diameter	Type	Order No.	Pcs. / Pkt.
6 mm ... 10 mm	QPD P 3PE2,5 6-10 BK	1582202	1
9 mm ... 14 mm	QPD P 3PE2,5 9-14 BK	1582205	1

Panel feed-throughs, 1.5 mm²

Panel feed-through, black, **4-pos.,** with M20 connection thread

Q 1,5/4A50/24-M20KU-ESA-BK

Q 1,5/4FL/24-M20KU-ESA BK

Common technical data	
Number of positions	4
Rated voltage (III/3)	500 V
Housing material	PA
Degree of protection	IP65/67
Core insulation	PVC / PE
Litz wire structure / smallest wire diameter	VDE 0295 class 1 to 6 / min. 0.15 mm
Conductor cross section solid / stranded	0.75 mm² ... 1 mm² / 0.75 mm² ... 1.5 mm²
Ambient temperature (operation)	-40 °C ... 80 °C (specifications of the cable manufacturer must also be observed)
Cable diameter	6 mm ... 12 mm

Rated current	Cable length	Type	Order No.	Pcs. / Pkt.
15 A	0.5 m	Q 1,5/4A50/24-M20KU-ESA-BK	1585045	10
15 A (15 A with slip-on sleeve 2.5 mm²; 12 A with slip-on sleeve 1.5 mm².)	-	Q 1,5/4FL/24-M20KU-ESA BK	1643000	10

Accessories	Type	Order No.	Pcs. / Pkt.
Socket wrench, for loosening and fastening QUICKON union nuts, WAF 19 mm	QSS 19	1670895	1
M20 locking nut, WAF 26	Q-MU M20	1640702	25

Panel feed-throughs, 2.5 mm²

Panel feed-through, black, **3+PE-pos.,** with M25 x 1.5 mounting flange and QUICKON nut

QPD W 3PE2,5 6-10 M25 0,5 BK **QPD W 3PE2,5 6-10 M25 FC BK**

Common technical data	
Number of positions	4
Rated voltage (III/3)	690 V
Rated current	20 A
Housing material	PA
Degree of protection	IP68/IP69K
Core insulation	PVC / PE
Litz wire structure / smallest wire diameter	VDE 0295 class 1 to 6 / min. 0.15 mm
Conductor cross section solid / stranded	1 mm² ... 2.5 mm² / 1 mm² ... 2.5 mm²
Ambient temperature (operation)	-40 °C ... 80 °C

Cable diameter	Cable length	Type	Order No.	Pcs. / Pkt.
6 mm ... 10 mm	0.5 m	QPD W 3PE2,5 6-10 M25 0,5 BK	1582163	1
9 mm ... 14 mm	0.5 m	QPD W 3PE2,5 9-14 M25 0,5 BK	1582175	1
6 mm ... 10 mm	-	QPD W 3PE2,5 6-10 M25 FC BK	1582166	1
9 mm ... 14 mm	-	QPD W 3PE2,5 9-14 M25 FC BK	1582178	1

Accessories	Type	Order No.	Pcs. / Pkt.
Protective cap, captive, IP68	QPD QSK 2,5 FS	1582488	1
Protective cap, transparent plastic, for 4 x 2.5 mm² QPD QUICKON connection, IP54	QPD QSK 2,5	1582150	10
Socket wrench, for loosening and fastening QUICKON union nuts, WAF 22 mm	QSS 22	1670206	1
M25 locking nut, WAF 32	Q-MU M25	1640715	25

HEAVYCON EVO

HEAVYCON EVO made from fiberglass-reinforced polyamide is the inexpensive alternative to die-cast aluminum housing. The corresponding cable glands with swivel bayonet locking reduce overall warehousing by 70% and are also fully compatible with HEAVYCON standard die-cast aluminum housing. The capacitive PE design ensures conformance with standards.

HEAVYCON EVO connector set

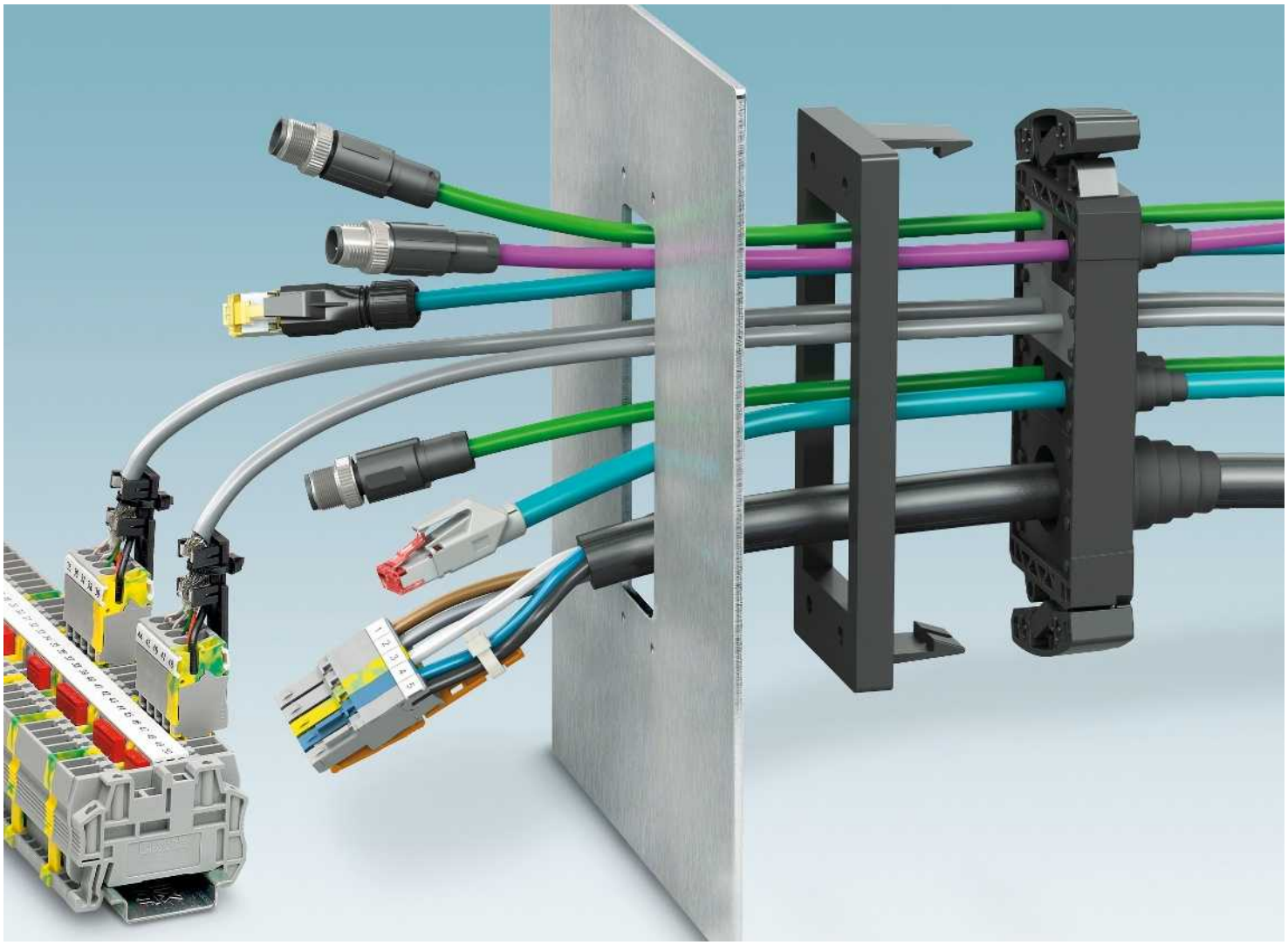
Connector set consisting of: supporting base element with single locking latch and hinged cover, sleeve housing for single locking latch, swivel cable gland with bayonet locking for straight and lateral cable outlet, and contact inserts with push-in connection.

Note:
Connectors may only be operated when under no load.

Common technical data	
Connection method	Push-in connection
Rated voltage (III/3)	500 V
Rated current	16 A
Connection cross section [mm² / AWG]	0.14 mm² ... 2.5 mm² / 26 ... 14
Insertion/withdrawal cycles	≥ 500
Material contact / contact surface	Copper alloy / Ag
Contact carrier material	PA
Housing material	Polyamide
Material, lock	Polyamide
Degree of protection (when plugged in)	IP65 / IP66
Ambient temperature (operation)	-40 °C ... 100 °C

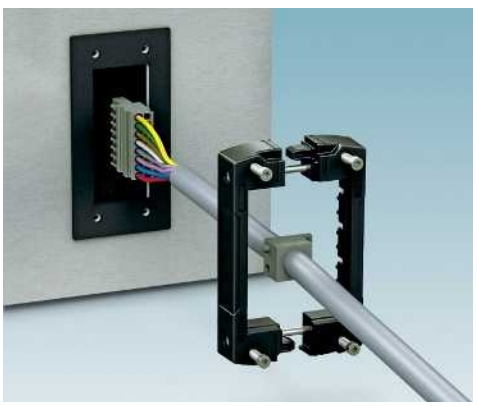
Design	Number of positions	Type	Order No.	Pcs. / Pkt.
B6	6	HC-EVO-B06PT-BWSC-HL-M20-PLRBK	1407710	1
B10	10	HC-EVO-B10PT-BWSC-HL-M25-PLRBK	1408791	1
B16	16	HC-EVO-B16PT-BWSC-HH-M25-PLRBK	1408793	1
B24	24	HC-EVO-B24PT-BWSC-HH-M32-PLRBK	1408794	1

Accessories	Type	Order No.	Pcs. / Pkt.
Replacement hinged cover type B6, for HEAVYCON EVO supporting base element	HC-B06-BC-HI-PLBK	1407692	1
Replacement hinged cover type B10, for HEAVYCON EVO supporting base element	HC-B10-BC-HI-PLBK	1407693	1
Replacement hinged cover type B16, for HEAVYCON EVO supporting base element	HC-B16-BC-HI-PLBK	1407694	1
Replacement hinged cover type B24, for HEAVYCON EVO supporting base element	HC-B24-BC-HI-PLBK	1407695	1
Snap-in markers, lettering field size: 20 x 9 mm	US-EMP (20X9)	0829439	10



Saves space and costs

The CES cable entry system allows water and dust-proof insertion of a variety of cables and protective hoses into areas with limited space in control cabinets, distributor boxes or devices.



Sealing frames with metal reinforcement

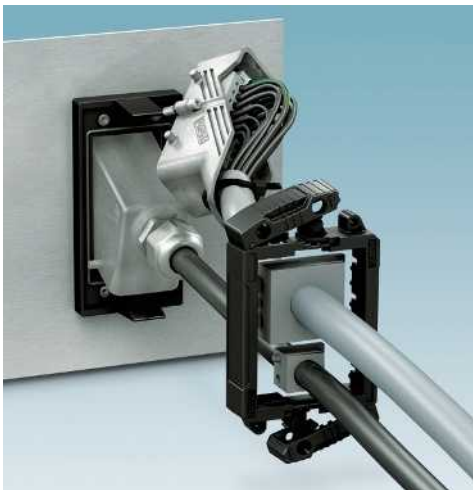
Because the sealing frames can be split, it is possible to guide pre-assembled connectors through panel cutouts and subsequently seal with a high degree of protection and reduce the strain according to DIN EN 50262. Thanks to the integrated metal reinforcement, only two locking elements are required on the front.

Variable mounting options

The CES sealing frames can be mounted directly on standard panel cutouts (e.g., Rittal) for industrial connectors. Snap-on frames are available to simplify on-site installation.

Optional locking

Sealing frames with screw locking and locking latches are available. The locking latch does not require any tools, which makes it really quick and easy to use, even in places that are difficult to access.



Also for industrial connectors

Due to a widening of the standard Rittal cutouts from 35 to 51 mm, even wide rectangular industrial connectors for double locking latches and plug assembly frames can be swiveled through mounting panels and sealed and provided with strain relief using the CES.

Plastic vs. rubber sleeves

The gray thermoplastic sleeves exhibit a low level of flammability according to UL 94 V0 and are highly resistant to acids and lyes. The black rubber sleeves (NBR) perform significantly better in the long term, particularly in the event of temperature fluctuations. They are also resistant to oil, fuels, and grease. All cable sleeves are halogen-free.

Faster installation and a reliable seal

It only takes two coned sleeves to seal any cable diameter ranging from 2 to 24 mm. The coned sleeves are cut to the relevant length and pushed on before the cables are assembled. There is no longer any need to select corresponding slotted rubber seals on site, which can be a time-consuming process, and the reliability of the seal has been improved for ratings up to IP65.

5

Marking systems, tools, and mounting material

Optimize all of the processes involved in the setup, installation, and maintenance of your control cabinets and switchgear. We can help you achieve this with optimally coordinated products from our marking, tool, and mounting material ranges. In this section you will find the products you need to mark, fix, and mount your control cabinet components.

Our marking system provides the perfect solutions for terminal, conductor, cable, and device marking. The CLIP PROJECT planning and marking software enables the quick and convenient planning and configuration of fault-free terminal strips and provides a complete marking solution for all required components.

Our tool range offers a large selection of professional processing and measuring tools. Designed for use in all processes in electrical engineering, the tools and automatic devices impress with their optimum handling and quality.

End brackets ensure secure terminal and module fixing.

Product range overview

Zack marker strip terminal marking	**66**
Software and printers	**69**
Terminal marking	**71**
Conductor and cable marking	**73**
Device marking	**79**
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Mounting material	**87**

Zack marker strip terminal marking

The ZB zack marker strip system is a labeling solution for modular terminal blocks and electronic modules with tall marker grooves. The flat ZBF zack marker strip system is available for flat marker grooves. The multi-section marking strips are easy to fit and can be easily separated if required.
Unlabeled marking strips can be custom-labeled with a plotter or by hand. Pre-printed marking strips are available in different versions as ZB and ZBF.

Zack marker strip terminal marking for tall marker groove, unprinted

Common technical data	
Color	white
Material	PA
Inflammability class according to UL 94	V2
Ambient temperature (operation)	-40 °C ... 100 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

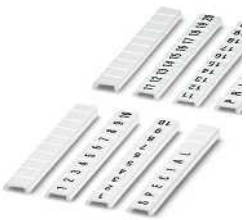
	Width	Type	Order No.	Pcs. / Pkt.
Zack marker strip, unprinted, 10-section, for individual labeling with TML (101X9,5)R TR, X–PEN 0,35 or CMS–P1–PLOTTER, sufficient for labeling 100 terminal blocks per pack	4 mm	ZB 4 :UNBEDRUCKT	0805001	10
Zack marker strip, unprinted, 10-section, for individual labeling with M-PEN, package sufficient for labeling 100 terminal blocks	5 mm	ZB 5 :UNBEDRUCKT	1050004	10
Zack marker strip, unprinted, 10-section, for individual labeling with M-PEN, package sufficient for labeling 100 terminal blocks	6 mm	ZB 6:UNBEDRUCKT	1051003	10
Zack marker strip, unprinted, 10-section, for individual labeling with M-PEN, package sufficient for labeling 100 terminal blocks	8 mm	ZB 8:UNBEDRUCKT	1052002	10
Zack marker strip, unprinted, 10-section, for individual labeling with M-PEN, package sufficient for labeling 100 terminal blocks	10 mm	ZB 10:UNBEDRUCKT	1053001	10
Zack marker strip, 5-section, unprinted: for individual labeling with M-PEN	12 mm	ZB 12:UNPRINTED	0812120	10
Zack marker strip, unprinted, 5-section, for individual labeling with TML (101X9,5)R TR, X–PEN 0,35 or CMS–P1–PLOTTER, sufficient for labeling 50 terminal blocks per pack	16.3 mm	ZB 16,3:UNPRINTED	0820222	10

Zack marker strip terminal marking for tall marker groove, printed

Common technical data	
Color	white
Material	PA
Inflammability class according to UL 94	V2
Ambient temperature (operation)	-40 °C ... 100 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

	Width	Type	Order No.	Pcs. / Pkt.
Zack marker strip, printed horizontally, 10-section, with consecutive numbers, e.g. 1-10, 11-20, etc. up to 91-99	4 mm	ZB 4,LGS:FORTL.ZAHLEN	0805739	10
Zack marker strip, printed vertically, 10-section, with consecutive numbers, e.g. 1-10, 11-20, etc. up to 91-100	4 mm	ZB 4,QR:FORTL.ZAHLEN	0805807	10
Zack marker strip, printed horizontally, 10-section, with consecutive numbers, e.g. 1-10, 11-20, etc. up to 91-100	5 mm	ZB 5,LGS:FORTL.ZAHLEN	1050017	10
Zack marker strip, printed horizontally, 10-section, with same numbers, e.g. 1/1/1, 2/2/2, etc. up to 100/100/100	5 mm	ZB 5,LGS:GLEICHE ZAHLEN	1050033	10
Zack marker strip, printed horizontally, 10-section, with L1, L2, L3, N, PE	5 mm	ZB 5,LGS:L1-N,PE	1050415	10
Zack marker strip, printed vertically, 10-section, with consecutive numbers, e.g. 1-10, 11-20, etc. up to 91-100	5 mm	ZB 5,QR:FORTL.ZAHLEN	1050020	10
Zack marker strip, printed horizontally, 10-section, with consecutive numbers, e.g. 1-10, 11-20, etc. up to 91-100	6 mm	ZB 6,LGS:FORTL.ZAHLEN	1051016	10
Zack marker strip, printed horizontally, 10-section, with same numbers, e.g. 1/1/1, 2/2/2, etc. up to 100/100/100	6 mm	ZB 6,LGS:GLEICHE ZAHLEN	1051032	10
Zack marker strip, printed horizontally, 10-section, with L1, L2, L3, N, PE	6 mm	ZB 6,LGS:L1-N,PE	1051414	10
Zack marker strip, printed horizontally, 10-section, with U, V, W, N, ⏚	6 mm	ZB 6,LGS:U-N	1051430	10
Zack marker strip, printed vertically, 10-section, with consecutive numbers, e.g. 1-10, 11-20, etc. up to 91-100	6 mm	ZB 6,QR:FORTL.ZAHLEN	1051029	10
Zack marker strip, printed horizontally, 10-section, with consecutive numbers, e.g. 1-10, 11-20, etc. up to 91-100	8 mm	ZB 8,LGS:FORTL.ZAHLEN	1052015	10
Zack marker strip, printed horizontally, 10-section, with L1, L2, L3, N, PE	8 mm	ZB 8,LGS:L1-N,PE	1052413	10
Zack marker strip, printed vertically, 10-section, with consecutive numbers, e.g. 1-10, 11-20, etc. up to 91-100	8 mm	ZB 8,QR:FORTL.ZAHLEN	1052028	10
Zack marker strip, printed horizontally, 10-section, with consecutive numbers, e.g. 1-10, 11-20, etc. up to 91-100	10 mm	ZB10,LGS:FORTL.ZAHLEN	1053014	10
Zack marker strip, printed horizontally, 10-section, with same numbers, e.g. 1/1/1, 2/2/2, etc. up to 100/100/100	10 mm	ZB10,LGS:GLEICHE ZAHLEN	1053030	10
Zack marker strip, printed horizontally, 10-section, with L1, L2, L3, N, PE	10 mm	ZB10,LGS:L1-N,PE	1053412	10
Zack marker strip, printed horizontally, 10-section, with U, V, W, N, ⏚	10 mm	ZB10,LGS:U-N	1053438	10
Zack marker strip, printed vertically, 10-section, with consecutive numbers, e.g. 1-10, 11-20, etc. up to 91-100	10 mm	ZB10,QR:FORTL.ZAHLEN	1053027	10
Zack marker strip, printed horizontally, 5-section, with L1, L2, L3, N, PE	12 mm	ZB 12,LGS:L1-N,PE	0812146	10
Zack marker strip, printed horizontally, 5-section, with L1, L2, L3, N, PE	15 mm	ZB 15,LGS:L1-N,PE	0811998	10
Zack marker strip, printed horizontally, 5-section, with L1, L2, L3, N, PE	17.5 mm	ZB 18,LGS:L1-N,PE	0811846	10
Zack marker strip, printed horizontally, 4-section, with L1, L2, L3, N, PE	22 mm	ZB 22,LGS:L1-N,PE	0811875	10

Zack marker strip terminal marking for flat marker groove, unprinted



Common technical data	
Color	white
Material	PA
Inflammability class according to UL 94	V2
Ambient temperature (operation)	-40 °C ... 100 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

	Width	Type	Order No.	Pcs. / Pkt.
Zack marker strip, flat, unprinted, 10-section, for individual labeling with B-STIFT, enough per pack to label 100 terminal blocks	4 mm	ZBF 4:UNBEDRUCKT	0808587	10
Zack marker strip, flat, unprinted, 10-section, for individual labeling with B-STIFT, enough per pack to label 100 terminal blocks	5 mm	ZBF 5:UNBEDRUCKT	0808642	10
Zack marker strip, flat, unprinted, 10-section, for individual labeling with B-STIFT, enough per pack to label 100 terminal blocks	6 mm	ZBF 6:UNBEDRUCKT	0808710	10
Zack marker strip, flat, unprinted, 10-section, for individual labeling with B-STIFT, enough per pack to label 100 terminal blocks	8 mm	ZBF 8:UNBEDRUCKT	0808781	10
Zack marker strip, flat, unprinted, 10-section, for individual labeling with B-STIFT, enough per pack to label 100 terminal blocks	10 mm	ZBF10:UNBEDRUCKT	0809997	10
Zack marker strip, flat, unprinted, 5-section, for individual labeling with B-STIFT, enough per pack to label 50 terminal blocks	12 mm	ZBF 12:UNBEDRUCKT	0809735	10

Zack marker strip terminal marking for flat marker groove, printed

Common technical data	
Color	white
Material	PA
Inflammability class according to UL 94	V2
Ambient temperature (operation)	-40 °C ... 100 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

	Width	Type	Order No.	Pcs. / Pkt.
Zack marker strip, flat, printed horizontally, 10-section, with consecutive numbers, e.g., 1-10, 11-20, etc. up to 91-99	4 mm	ZBF 4,LGS:FORTL.ZAHLEN	0808626	10
Zack marker strip, flat, printed horizontally, 10-section, with even numbers, e.g., 2-20, 22-40, etc. up to 82-99	4 mm	ZBF 4,LGS:GERADE ZAHLEN	0810818	10
Zack marker strip, flat, printed horizontally, 10-section, with odd numbers, e.g. 1-19, 21-39, etc. up to 81-99	4 mm	ZBF 4,LGS:UNGERADE ZAHLEN	0810850	10
Zack marker strip, flat, printed vertically, 10-section, with consecutive numbers, e.g., 1-10, 11-20, etc. up to 91-100	4 mm	ZBF 4,QR:FORTL.ZAHLEN	0808820	10
Zack marker strip, flat, printed horizontally, 10-section, with consecutive numbers, e.g., 1-10, 11-20, etc. up to 91-100	5 mm	ZBF 5,LGS:FORTL.ZAHLEN	0808671	10
Zack marker strip, flat, printed horizontally, 10-section, with even numbers, e.g., 2-20, 22-40, etc. up to 82-100	5 mm	ZBF 5,LGS:GERADE ZAHLEN	0810821	10
Zack marker strip, flat, printed horizontally, 10-section, with odd numbers, e.g. 1-19, 21-39, etc. up to 81-99	5 mm	ZBF 5,LGS:UNGERADE ZAHLEN	0810863	10
Zack marker strip, flat, printed vertically, 10-section, with consecutive numbers, e.g., 1-10, 11-20, etc. up to 91-100	5 mm	ZBF 5,QR:FORTL.ZAHLEN	0808697	10
Zack marker strip, flat, printed horizontally, 10-section, with consecutive numbers, e.g., 1-10, 11-20, etc. up to 91-100	6 mm	ZBF 6,LGS:FORTL.ZAHLEN	0808749	10
Zack marker strip, flat, printed horizontally, 10-section, with even numbers, e.g., 2-20, 22-40, etc. up to 82-100	6 mm	ZBF 6,LGS:GERADE ZAHLEN	0810834	10
Zack marker strip, flat, printed horizontally, 10-section, with odd numbers, e.g. 1-19, 21-39, etc. up to 81-99	6 mm	ZBF 6,LGS:UNGERADE ZAHLEN	0810876	10
Zack marker strip, flat, printed vertically, 10-section, with consecutive numbers, e.g., 1-10, 11-20, etc. up to 91-100	6 mm	ZBF 6,QR:FORTL.ZAHLEN	0808765	10
Zack marker strip, flat, printed horizontally, 10-section, with consecutive numbers, e.g., 1-10, 11-20, etc. up to 91-100	8 mm	ZBF 8,LGS:FORTL.ZAHLEN	0808804	10
Zack marker strip, flat, printed horizontally, 10-section, with consecutive numbers, e.g., 1-10, 11-20, etc. up to 91-100	10 mm	ZBF10,LGS:FORTL.ZAHLEN	0810009	10
Zack marker strip, flat, printed vertically, 10-section, with consecutive numbers, e.g., 1-10, 11-20, etc. up to 91-100	10 mm	ZBF10,QR:FORTL.ZAHLEN	0810025	10

Software and printers

The high-performance CLIP PROJECT planning and marking software enables quick configuration and labeling for the control cabinet and in the field.
A wide range of different marking material is available for labeling modular terminal blocks, conductors and cables as well as devices. These are offered in sheets or rolls as required and can be labeled with the THERMOMARK LINE printers.

CLIP PROJECT ADVANCED software

CLIP PROJECT advanced, planning and marking software, German/English/French/
Dutch/Italian/Spanish/Russian/Polish/Hungarian/Czech/Turkish/
Portuguese/Chinese and Japanese
After 30 days, memory/print function and interfaces are no longer available

Common technical data	
Software interface	EPLAN 5.7 / EPLAN Electric P8 / AUCOTEC ELCAD / AUCOTEC Engineering Base / AUCOTEC RUPLAN / ZUKEN E^3 / Bentley Promis-e / WSCAD / IGE XAO / PC-Schematic AUTOMATION / SDProget SPAC
CPU	Pentium II > 400 MHz
Main memory (RAM)	128 Mbytes
Hard disk memory	2 Gbytes
Optical drive	CD-ROM
Monitor resolution	1024 x 768
Operating equipment	Mouse recommended
Operating system	MS Windows XP SP3, MS Windows Vista, MS Windows 7 (32/64-bit), MS Windows 8 (32/64-bit)

Type	Order No.	Pcs. / Pkt.
CLIP-PROJECT ADVANCED	5146040	1
CLIP-PROJECT PROFESSIONAL	5146053	1

Thermal transfer printer for sheet and card material

Technical data	
Width / Length / Height	253.00 mm / 320.00 mm / 189.00 mm
Weight	6.00 kg
Temperature range	5 °C ... 35 °C
Print resolution	300 dpi
Print width	104.00 mm
Max. printing length	140.00 mm
Print method	Thermal transfer for sheets and cards
Interfaces	10/100 Mbps Ethernet / USB 2.0
Power supply	100 V AC ... 240 V AC / 50 Hz ... 60 Hz
Operating systems	MS Windows XP SP3, MS Windows Vista, MS Windows 7 (32/64-bit), MS Windows 8 (32/64-bit)

Type	Order No.	Pcs. / Pkt.
THERMOMARK CARD	5146464	1

Accessories	Type	Order No.	Pcs. / Pkt.
Magazine, for THERMOMARK CARD, for accommodating: UCT-TM ..., UCT1-TM ..., UCT5-TM ...	THERMOMARK CARD-UCT-MAG1	5146480	1
Magazine, for THERMOMARK CARD, for accommodating: UCT–TMF ...	THERMOMARK CARD-UCT-MAG2	5146563	1
Magazine, for THERMOMARK CARD, for accommodating: UCT–WMS …	THERMOMARK CARD-UCT-MAG3	5146613	1
Magazine, for THERMOMARK CARD, for accommodating: UCT1–TMF…	THERMOMARK CARD-UCT-MAG4	5146614	1
Magazine, for THERMOMARK CARD, for accommodating: UCT3–TM …	THERMOMARK CARD-UCT-MAG6	5146616	1
Magazine, for THERMOMARK CARD, for accommodating: UCT–WMT … sheets	THERMOMARK CARD-UCT-MAG7	0801734	1
Magazine, for THERMOMARK CARD, for accommodating UCT-EM (12X3,3), UCT-EM (12X6)	THERMOMARK CARD-UCT-MAG9	0801736	1
Magazine, for THERMOMARK CARD, for accommodating: UCT–EM (30 x 5)	THERMOMARK CARD-UCT-MAG10	0801737	1
Magazine, for THERMOMARK CARD, for accommodating UCT-EM (17X10)	THERMOMARK CARD-UCT-MAG11	0801738	1
Magazine, for THERMOMARK CARD, for accommodating: UCT–EM (10X8), UCT-EM (12X7)	THERMOMARK CARD-UCT-MAG12	0830399	1
Magazine, for THERMOMARK CARD, for accommodating UCT-EM (10X5)	THERMOMARK CARD-UCT-MAG13	0830400	1
Magazine, for THERMOMARK CARD, for accommodating: UCT–EM (21 x 8)	THERMOMARK CARD-UCT-MAG14	0830401	1
Magazine, for THERMOMARK CARD, for accommodating: UCT-EM (20 x 9)	THERMOMARK CARD-UCT-MAG15	0830402	1
Magazine, for THERMOMARK CARD, for accommodating: UCT-EM (17X9)	THERMOMARK CARD-UCT-MAG16	0830403	1
Magazine, for THERMOMARK CARD, for accommodating UCT-EM (17.5X7.5) and UCT-EM (17X9)	THERMOMARK CARD-UCT-MAG18	0830405	1
Magazine, for THERMOMARK CARD, for accommodating UCT-EM (15X10)	THERMOMARK CARD-UCT-MAG19	0830406	1
Magazine, for THERMOMARK CARD, for accommodating all US-... materials	THERMOMARK CARD-US-MAG1	5146451	1
Ink ribbon, length: 300 m, width: 110 mm	THERMOMARK-RIBBON 110-TC	0801371	1

Thermal transfer printer for roll material

Technical data	
Width / Length / Height	253.00 mm / 320.00 mm / 189.00 mm
Weight	3.80 kg
Temperature range	5 °C ... 40 °C
Print resolution	300 dpi
Print width	104.00 mm
Max. printing length	1000.00 mm
Print method	Thermal transfer for rolls
Interfaces	10/100 Mbps Ethernet / USB 2.0
Power supply	100 V AC ... 240 V AC / 50 Hz ... 60 Hz
Operating systems	MS Windows XP SP3, MS Windows Vista, MS Windows 7 (32/64-bit), MS Windows 8 (32/64-bit)

	Type	Order No.	Pcs. / Pkt.
	THERMOMARK ROLL	5146477	1

Accessories	Type	Order No.	Pcs. / Pkt.
Cutter, can be retrofitted, for precise cutting of continuous media into required lengths	THERMOMARK ROLL-CUTTER	5146422	1
Perforator, can be retrofitted, for perforating continuous media	THERMOMARK ROLL-CUTTER/P	5146435	1
External media hub, for roll diameters of 150 mm to 305 mm	THERMOMARK ROLL-ERH	5146448	1
External media hub, for roll diameters of up to 500 mm	THERMOMARK-ERH 500	5146309	1
Ink ribbon, length:300 m, width:110 mm, printing color:black	THERMOMARK-RIBBON 110	5145384	1

Marker pen for manual marking

Common technical data	
Color	black

	Type	Order No.	Pcs. / Pkt.
Marker pen, refillable, for manual labeling, 0.35 mm line thickness, can be refilled with CMS-INK-TR-C5, supplied without ink	X-PEN 0,35	0811228	1
Marker pen, non-refillable, for manual labeling, 0.5 mm line thickness	B-STIFT	1051993	10

Accessories	Type	Order No.	Pcs. / Pkt.
Ink cartridge, special black ink, 5 cartridges of 1 ml each, for high demands	CMS-INK-TR-C5	5146684	1

Marking material for terminal blocks

Large-surface and clear labeling of terminal strips is indispensable for quick and error-free wiring of terminal strips. This is also true for the maintenance and startup of control cabinets and systems. Terminal markers from Phoenix Contact are ideally adapted to the terminals and are offered without labeling in card or roll form.

UniCard terminal marking for tall marker groove

Common technical data	
Length	10.5 mm
Height	4.76 mm
Color	white
Material	PC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-40 °C ... 120 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

Width	Type	Order No.	Pcs. / Pkt.
2.95 mm	UCT-TM 3,5	0829484	10
3.6 mm	UCT-TM 4	0828732	10
4.6 mm	UCT-TM 5	0828734	10
5.6 mm	UCT-TM 6	0828736	10
7.6 mm	UCT-TM 8	0828740	10
9.6 mm	UCT-TM 10	0829142	10
11.45 mm	UCT-TM 12	0829144	10
15.45 mm	UCT-TM 16	0829146	10

UniCard terminal marking for flat marker groove

Common technical data	
Length	5 mm
Height	1.64 mm
Color	white
Material	PC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-40 °C ... 120 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

Width	Type	Order No.	Pcs. / Pkt.
2.95 mm	UCT-TMF 3,5	0829486	10
3.6 mm	UCT-TMF 4	0828742	10
4.6 mm	UCT-TMF 5	0828744	10
5.6 mm	UCT-TMF 6	0828746	10
7.6 mm	UCT-TMF 8	0828748	10
9.6 mm	UCT-TMF 10	0829204	10
11.45 mm	UCT-TMF 12	0829214	10
15.45 mm	UCT-TMF 16	0829218	10

UniSheet terminal marking for universal marker groove, for printing with THERMOMARK CARD

Technical data	
Length	9.8 mm
Width	104 mm
Height	0.5 mm
Color	white
Material	PVC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-30 °C ... 80 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	Silicone-free

Type	Order No.	Pcs. / Pkt.
US-TM 100	0829255	10

UniSheet terminal marking for flat marker groove, for printing with THERMOMARK CARD

Technical data	
Length	6.3 mm
Width	104 mm
Height	0.5 mm
Color	white
Material	PVC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-30 °C ... 80 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	Silicone-free

	Type	Order No.	Pcs. / Pkt.
	US-TMF 100	0829260	10

Accessories	Type	Order No.	Pcs. / Pkt.
Marker pen, non-refillable, for manual labeling, 0.5 mm line thickness	B-STIFT	1051993	10

Marking material for conductors and cables

Clear and permanent marking of all conductors and cables considerably improves transparency in control cabinets and switchgear. It makes assembly and maintenance work easier and assists in rectifying faults. Phoenix Contact conductor and cable marking systems provide the ideal marking option for any application. Just select an assembly method. The markers can be threaded on, slipped on, clipped on, adhered in place or secured with cable binders.

Slide-on marker carrier, 15 or 23 mm wide

For conductor diameters: 0.6-35.0 mm

Common technical data	
Color	transparent
Material	PVC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-50 °C ... 80 °C
Components	Silicone-free

	Width	Type	Order No.	Pcs. / Pkt.
Conductor diameter: 0.6-1.2 mm	15 mm	PATG 0/15	1013740	1000
Conductor diameter: 0.6-1.2 mm	15 mm	PATG 1/15	1013025	1000
Conductor diameter: 2.0-4.0 mm	15 mm	PATG 2/15	1013038	1000
Conductor diameter: 4.0 - 7.0 mm	15 mm	PATG 3/15	1013041	500
Conductor diameter: 6.0-10.0 mm	15 mm	PATG 4/15	1013054	500
Conductor diameter: 10.0-14.0 mm	15 mm	PATG 5/15	1013067	200
Conductor diameter: 14.0-22.0 mm	15 mm	PATG 6/15	1013070	200
Conductor diameter: 22.0-30.0 mm	15 mm	PATG 7/15	1013083	50
Conductor diameter: 30.0-35.0 mm	15 mm	PATG 8/15	1013096	50
Conductor diameter: 0.6-1.2 mm	23 mm	PATG 0/23	0828046	1000
Conductor diameter: 1.5-2.5 mm	23 mm	PATG 1/23	1013847	1000
Conductor diameter: 2.0-4.0 mm	23 mm	PATG 2/23	1013850	500
Conductor diameter: 4.0 - 7.0 mm	23 mm	PATG 3/23	1013863	500
Conductor diameter: 6.0-10.0 mm	23 mm	PATG 4/23	0808011	200
Conductor diameter: 10.0-14.0 mm	23 mm	PATG 5/23	0808024	200
Conductor diameter: 14.0-22.0 mm	23 mm	PATG 6/23	0808037	100
Conductor diameter: 22.0-30.0 mm	23 mm	PATG 7/23	0808040	50
Conductor diameter: 30.0-35.0 mm	23 mm	PATG 8/23	0808053	50

Clip-on marker carrier, 15 or 23 mm wide

For conductor diameters of 2.0 - 10.0 mm

Common technical data	
Color	transparent
Material	PVC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-50 °C ... 80 °C
Components	Silicone-free

	Width	Conductor diameter range	Type	Order No.	Pcs. / Pkt.
Conductor diameter: 2.0-3.5 mm	15 mm	2 mm ... 3.5 mm	PATO 1/15	1013119	1000
Conductor diameter: 2.8-5.0 mm	15 mm	2.8 mm ... 4.4 mm	PATO 2/15	1013122	1000
Conductor diameter: 5.0-8.0 mm	15 mm	4.4 mm ... 6.7 mm	PATO 3/15	1013135	500
Conductor diameter: 8.0-10.0 mm	15 mm	6.7 mm ... 10 mm	PATO 4/15	1013148	500
Conductor diameter: 2.0-3.5 mm	23 mm	2 mm ... 3.5 mm	PATO 1/23	1013892	500
Conductor diameter: 2.8-5.0 mm	23 mm	2.8 mm ... 4.4 mm	PATO 2/23	1013902	500

Marker carrier for assembly with cable binders

For marking materials with lettering field size of 23 x 4 mm und 30 x 4 mm

Common technical data	
Color	transparent
Material	PVC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-50 °C ... 80 °C
Components	Silicone-free

Width	Type	Order No.	Pcs. / Pkt.
30 mm	PAB-KTL	1013261	200
23 mm	PAB-KTL 23	1013957	200

UniCard cable marking for marker carriers

Common technical data	
Length	4 mm
Color	white
Material	PC V0
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-40 °C ... 120 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

	Width	Type	Order No.	Pcs. / Pkt.
50 markers with 15 x 4 mm lettering field size	15 mm	UCT-WMT (15X4)	0801446	10
30 markers with 23 x 4 mm lettering field size	23 mm	UCT-WMT (23X4)	0801453	10
30 markers with 30 x 4 mm lettering field size	30 mm	UCT-WMT (30X4)	0801422	10

Accessories	Type	Order No.	Pcs. / Pkt.
Magazine, for THERMOMARK CARD, for accommodating: UCT–WMT … sheets	THERMOMARK CARD-UCT-MAG7	0801734	1

UniSheet conductor marking for marker carriers

Common technical data	
Width	4.3 mm
Color	white
Material	PVC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-30 °C ... 80 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	Silicone-free

	Length	Type	Order No.	Pcs. / Pkt.
84 markers for lettering size field of 15 x 4 mm	15 mm	US-WMT (15X4)	0828767	10
56 markers for lettering field size of 23 x 4 mm	23 mm	US-WMT (23X4)	0828769	10
42 markers for lettering size field of 30 x 4 mm	30 mm	US-WMT (30X4)	0828770	10

Accessories	Type	Order No.	Pcs. / Pkt.
Magazine, for THERMOMARK CARD, for accommodating all US-... materials	THERMOMARK CARD-US-MAG1	5146451	1

UniCard slide-on conductor marking

Common technical data	
Length	12 mm
Color	white
Material	PC V0
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-40 °C ... 120 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

Width	Height	Conductor diameter range	Type	Order No.	Pcs. / Pkt.
4.3 mm	5.8 mm	1.5 mm ... 3.2 mm	UCT-WMS 3,2 (12X4)	0828570	8
5.5 mm	7.1 mm	2.5 mm ... 4.7 mm	UCT-WMS 4,7 (12X5,5)	0828571	6

Accessories	Type	Order No.	Pcs. / Pkt.
Magazine, for THERMOMARK CARD, for accommodating: UCT–WMS …	THERMOMARK CARD-UCT-MAG3	5146613	1

UniCard conductor marking for assembly with cable binders

Common technical data	
Color	white
Material	PVC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-30 °C ... 80 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	Silicone-free

	Length	Width	Conductor diameter range	Type	Order No.	Pcs. / Pkt.
35-section, lettering field size: 24 x 5 mm	24 mm	14 mm	> 13 mm	US-WMTB (24X5)	0828771	10
24-section, lettering field size: 29 x 8 mm	29 mm	16 mm	> 13 mm	US-WMTB (29X8)	0828772	10
12-section, lettering field size: 44 x 15 mm	60 mm	15 mm	> 4 mm	US-WMTB (44X15)	0828773	10

Accessories	Type	Order No.	Pcs. / Pkt.
Magazine, for THERMOMARK CARD, for accommodating all US-... materials	THERMOMARK CARD-US-MAG1	5146451	1

Self-adhesive conductor marking with transparent protective foil

Common technical data	
Color	white
Material	PVC
Ambient temperature (operation)	-50 °C ... 110 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	Silicone-free

	Length	Width	Conductor diameter range	Type	Order No.	Pcs. / Pkt.
5000 labels, up to 3 mm Ø	19 mm	12.7 mm	... 3 mm	WML 3 (13X10)R	0800073	1
3000 labels, up to 5 mm Ø	25.4 mm	2.4 mm	... 5 mm	WML 5 (25X10)R	0817523	1
7000 labels, up to 6 mm Ø	31.75 mm	12.7 mm	... 6 mm	WML 6 (13X13)R	0816252	1
4000 labels, up to 7.5 mm Ø	36.5 mm	12.7 mm	... 7.5 mm	WML 7,5 (13X13)R	0800074	1
2100 labels, up to 7.5 mm Ø	36.5 mm	25.4 mm	... 7.5 mm	WML 7,5 (25X13)R	0800075	1
1500 labels, up to 14 mm Ø	63.5 mm	25.4 mm	... 14 mm	WML 14 (25X19)R	0817536	1
1000 labels, up to 14 mm Ø	63.5 mm	38.1 mm	... 14 mm	WML 14 (38X19)R	0817552	1
2500 labels, up to 18 mm Ø	70 mm	12 mm	... 18 mm	WML 18 (12X12)R	0817507	1
900 labels, up to 22 mm Ø	95.25 mm	25.4 mm	... 22 mm	WML 22 (25X25)R	0800078	1
500 labels, up to 36 mm Ø	152.4 mm	25.4 mm	... 36 mm	WML 36 (25X38)R	0817510	1
250 labels, up to 46 mm Ø	182 mm	25 mm	... 46 mm	WML 46 (25X38)R	0800067	1

Thread-on conductor marking

For conductor diameters from 1.0 to 8.4 mm

Common technical data	
Color	white
Material	Polyester
Ambient temperature (operation)	-40 °C ... 120 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

	Length	Width	Conductor diameter range	Type	Order No.	Pcs. / Pkt.
Lettering field size: 15 x 4 mm, conductor cross section: 1.0-2.4 mm	29.3 mm	4.2 mm	1 mm ... 2.4 mm	WMT 2,4 (15X4)R	0816281	1
Lettering field size: 15 x 5 mm, conductor cross section: 2.0-3.5 mm	31.4 mm	5 mm	2 mm ... 3.5 mm	WMT 3,5 (15X5)R	0817222	1
Lettering field size: 15 x 6 mm, conductor cross section: 3.0-4.2 mm	33.4 mm	6 mm	3 mm ... 4.2 mm	WMT 4,2 (15X6)R	0817235	1
Lettering field size: 15 x 8 mm, conductor cross section: 4.0-5.5 mm	34.4 mm	8 mm	4 mm ... 5.5 mm	WMT 5,5 (15X8)R	0817248	1
Lettering field size: 17 x 10 mm, conductor cross section: 5.0-8.4 mm	44.4 mm	10 mm	5 mm ... 8.4 mm	WMT 8,4 (17X10)R	0817251	1

Insertable conductor marking for marking collars

For PATG ... and PATO ... marker carriers

Common technical data	
Material	Polyester
Ambient temperature (operation)	-40 °C ... 120 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

	Length	Width	Color	Type	Order No.	Pcs. / Pkt.
Lettering field size: 10 x 4 mm, 1 roll = 7500 labels	10 mm	4 mm	white	EMT (10X4)R	0816235	1
Lettering field size: 15 x 4 mm, 1 roll = 7500 labels	15 mm	4 mm	white	EMT (15X4)R	0817329	1
Lettering field size: 15 x 4 mm, 1 roll = 7500 labels	15 mm	4 mm	red	EMT (15X4)R RD	0816249	1
Lettering field size: 15 x 4 mm, 1 roll = 7500 labels	15 mm	4 mm	yellow	EMT (15X4)R YE	0817358	1
Lettering field size: 15 x 4 mm, 1 roll = 7500 labels	15 mm	4 mm	blue	EMT (15X4)R BU	0817332	1
Lettering field size: 23 x 4 mm, 1 roll = 5000 labels	23 mm	4 mm	white	EMT (23X4)R	0817361	1
Lettering field size: 23 x 4 mm, 1 roll = 5000 labels	23 mm	4 mm	yellow	EMT (23X4)R YE	0817374	1
Lettering field size: 24 x 4 mm, 1 roll = 5000 labels	24 mm	4 mm	white	EMT (24X4)R	0816265	1
Lettering field size: 25 x 6 mm, 1 roll = 5000 labels	25 mm	6 mm	white	EMT (25X6)R	0817264	1
Lettering field size: 29 x 8 mm, 1 roll = 5400 labels	29 mm	8 mm	white	EMT (29X8)R	0817277	1
Lettering field size: 29 x 8 mm, 1 roll = 5400 labels	29 mm	8 mm	yellow	EMT (29X8)R YE	0817280	1
Lettering field size: 40 x 17 mm, 1 roll = 2300 labels	40 mm	17 mm	white	EMT (40X17)R	0817293	1
Lettering field size: 60 x 15 mm, 1 roll = 2500 labels	60 mm	15 mm	white	EMT (60X15)R	0801846	10

Conductor marking for cable binder assembly

For conductor diameters from 6 mm

Common technical data	
Color	white
Material	Polyester
Ambient temperature (operation)	-40 °C ... 120 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

	Length	Width	Type	Order No.	Pcs. / Pkt.
Lettering field size: 24 x 8 mm, 1 roll = 4000 cable markers, 4 markers per strip	23 mm	17 mm	WMTB (24X8)R	0816278	1
Lettering field size: 35 x 15 mm, 1 roll = 1700 cable markers, 2 markers per strip	48 mm	15 mm	WMTB (35X15)R	0817316	1

Continuous shrink sleeves, white

Common technical data	
Color	white
Material	Polyolefine
Ambient temperature (operation)	-55 °C ... 135 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	Halogen-free

Certification	Length	Width	Conductor diameter range	Type	Order No.	Pcs. / Pkt.
	30 m	4 mm	0.8 mm ... 2.4 mm	WMS 2,4 (EX4)R	0800289	1
-	30 m	5 mm	1 mm ... 3.2 mm	WMS 3,2 (EX5)R	0800290	1
	30 m	9 mm	1.6 mm ... 4.8 mm	WMS 4,8 (EX9)R	0800291	1
-	25 m	10 mm	2.1 mm ... 6.4 mm	WMS 6,4 (EX10)R	0800292	1
	20 m	16 mm	3.2 mm ... 9.5 mm	WMS 9,5 (EX16)R	0800293	1
-	20 m	20 mm	4.2 mm ... 12.7 mm	WMS 12,7 (EX20)R	0800294	1
-	20 m	30 mm	6.4 mm ... 19.1 mm	WMS 19,1 (EX30)R	0800295	1
-	15 m	40 mm	8.5 mm ... 25.4 mm	WMS 25,4 (EX40)R	0800296	1
-	15 m	60 mm	12.7 mm ... 38.1 mm	WMS 38,1 (EX60)R	0800298	1
-	15 m	80 mm	16.9 mm ... 50.8 mm	WMS 50,8 (EX80)R	0800299	1
-	120 m	4 mm	0.8 mm ... 2.4 mm	WMS 2,4 (EX4)RL	0800319	1
-	120 m	5 mm	1 mm ... 3.2 mm	WMS 3,2 (EX5)RL	0800320	1
-	120 m	9 mm	1.6 mm ... 4.8 mm	WMS 4,8 (EX9)RL	0800321	1
-	100 m	10 mm	2.1 mm ... 6.4 mm	WMS 6,4 (EX10)RL	0800322	1
-	80 m	16 mm	3.2 mm ... 9.5 mm	WMS 9,5 (EX16)RL	0800324	1
-	80 m	20 mm	4.2 mm ... 12.7 mm	WMS 12,7 (EX20)RL	0800325	1
-	80 m	30 mm	6.4 mm ... 19.1 mm	WMS 19,1 (EX30)RL	0800326	1
-	60 m	40 mm	8.5 mm ... 25.4 mm	WMS 25,4 (EX40)RL	0800327	1

Continuous shrink sleeves, yellow

Common technical data	
Color	yellow
Material	Polyolefine
Ambient temperature (operation)	-55 °C ... 135 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	Halogen-free

Length	Width	Conductor diameter range	Type	Order No.	Pcs. / Pkt.
30 m	4 mm	0.8 mm ... 2.4 mm	WMS 2,4 (EX4)R YE	0800300	1
30 m	5 mm	1 mm ... 3.2 mm	WMS 3,2 (EX5)R YE	0800301	1
30 m	9 mm	1.6 mm ... 4.8 mm	WMS 4,8 (EX9)R YE	0800302	1
25 m	10 mm	2.1 mm ... 6.4 mm	WMS 6,4 (EX10)R YE	0800303	1
20 m	16 mm	3.2 mm ... 9.5 mm	WMS 9,5 (EX16)R YE	0800304	1
20 m	20 mm	4.2 mm ... 12.7 mm	WMS 12,7 (EX20)R YE	0800305	1
20 m	30 mm	6.4 mm ... 19.1 mm	WMS 19,1 (EX30)R YE	0800306	1
15 m	40 mm	8.5 mm ... 25.4 mm	WMS 25,4 (EX40)R YE	0800308	1
15 m	60 mm	12.7 mm ... 38.1 mm	WMS 38,1 (EX60)R YE	0800309	1
15 m	80 mm	16.9 mm ... 50.8 mm	WMS 50,8 (EX80)R YE	0800311	1
120 m	4 mm	0.8 mm ... 2.4 mm	WMS 2,4 (EX4)RL YE	0800328	1
120 m	5 mm	1 mm ... 3.2 mm	WMS 3,2 (EX5)RL YE	0800329	1
120 m	9 mm	1.6 mm ... 4.8 mm	WMS 4,8 (EX9)RL YE	0800330	1
120 m	10 mm	2.1 mm ... 6.4 mm	WMS 6,4 (EX10)RL YE	0800331	1
80 m	16 mm	3.2 mm ... 9.5 mm	WMS 9,5 (EX16)RL YE	0800332	1
80 m	20 mm	4.2 mm ... 12.7 mm	WMS 12,7 (EX20)RL YE	0800333	1
80 m	30 mm	6.4 mm ... 19.1 mm	WMS 19,1 (EX30)RL YE	0800334	1
60 m	40 mm	8.5 mm ... 25.4 mm	WMS 25,4 (EX40)RL YE	0800335	1

Plastic cable markers for insert labels

KMK

KMK 2

Common technical data	
Color	transparent
Material	Polyethylene
Ambient temperature (operation)	-40 °C ... 80 °C
Components	free from silicone and halogen

Width	Height	Inflammability class according to UL 94	Conductor diameter range	Type	Order No.	Pcs. / Pkt.
29 mm	8 mm	-	10 mm ... 25 mm	KMK	1005208	100
25 mm	6 mm	HB	-	KMK 1	0830745	100
29 mm	8 mm	-	4 mm	KMK 2	1005266	100
40 mm	17 mm	-	16 mm ... 35 mm	KMK 3	1005211	50
40 mm	17 mm	-	10 mm	KMK 4	1005305	50

Accessories	Type	Order No.	Pcs. / Pkt.
UniSheet labels to be snapped into the marker carrier, can be labeled with THERMOMARK CARD, 48-section, color: white, lettering field size: 29 x 8 mm	US-EMP (29X8)	0829436	10
UniSheet labels to be snapped into the marker carrier, can be labeled with THERMOMARK CARD, 16-section, color: white, lettering field size: 40 x 17 mm	US-EMP (40X17)	0829437	10
Insert labels for thermal transfer printer, 1 roll = 5400 labels, lettering field size: 29 mm x 8 mm	EMT (29X8)R	0817277	1
Insert labels for thermal transfer printer, 1 roll = 2300 labels, lettering field size: 40 mm x 17 mm	EMT (40X17)R	0817293	1

Plastic cable binders

Common technical data	
Material	PA
Inflammability class according to UL 94	V2
Ambient temperature (operation)	-40 °C ... 85 °C

Length	Width	Color	Type	Order No.	Pcs. / Pkt.
100 mm	2.5 mm	transparent	PKB 100X2,5	1005457	1000
140 mm	3.6 mm	transparent	PKB 140X3,6	1005460	1000
190 mm	4.8 mm	transparent	PKB 190X4,8	1005473	1000
200 mm	2.5 mm	transparent	PKB 200X2,5	1005486	1000
290 mm	4.8 mm	transparent	PKB 290X4,8	1005499	1000
370 mm	4.8 mm	transparent	PKB 370X4,8	1005509	1000
100 mm	2.5 mm	black	PKB 100X2,5 BK	1005512	1000
140 mm	3.6 mm	black	PKB 140X3,6 BK	1005525	1000
190 mm	4.8 mm	black	PKB 190X4,8 BK	1005538	1000
200 mm	2.5 mm	black	PKB 200X2,5 BK	1005541	1000
290 mm	4.8 mm	black	PKB 290X4,8 BK	1005554	1000
370 mm	4.8 mm	black	PKB 370X4,8 BK	1005567	1000

Marking material for devices

Identifying electrical and electronic control cabinets does not just make service work easier. In some sectors, it is actually a mandatory requirement. Moreover, equipment identification improves the quality of the control cabinets and systems.
Phoenix Contact offers a variety of different markers for device marking.

UniSheet stick-on device marking

Common technical data	
Height	0.5 mm
Material	PVC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-30 °C ... 80 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	Silicone-free

Length	Width	Color	Type	Order No.	Pcs. / Pkt.
11 mm	9 mm	white	US-EMLP (11X9)	0828789	10
14.85 mm	5 mm	white	US-EMLP (15X5)	0828790	10
17 mm	7 mm	white	US-EMLP (17X7)	0828792	10
16.9 mm	14.9 mm	white	US-EMLP (17X15)	0828793	10
20 mm	9 mm	white	US-EMLP (20X9)	0828795	10
21.8 mm	21.8 mm	white	US-EMLP (22X22)	0828796	10
27 mm	7.93 mm	white	US-EMLP (27X8)	0828797	10
27 mm	12.1 mm	white	US-EMLP (27X12,5)	0828798	10
26.9 mm	14.9 mm	white	US-EMLP (27X15)	0828799	10
27 mm	17.6 mm	white	US-EMLP (27X18)	0828800	10
27 mm	27 mm	white	US-EMLP (27X27)	0828801	10
34.65 mm	9 mm	white	US-EMLP (35X9)	0828802	10
48.7 mm	14.9 mm	white	US-EMLP (49X15)	0828803	10
59.7 mm	14.9 mm	white	US-EMLP (60X15)	0828804	10
59.7 mm	14.9 mm	white	US-EMLP (60X30)	0828805	10
84.9 mm	53.7 mm	white	US-EMLP (85,6X54)	0828806	10
100 mm	60 mm	white	US-EMLP (100X60)	0828807	10
11 mm	9 mm	silver	US-EMLP (11X9) SR	0828872	10
14.85 mm	5 mm	silver	US-EMLP (15X5) SR	0828874	10
17 mm	7 mm	silver	US-EMLP (17X7) SR	0828878	10
16.9 mm	14.9 mm	silver	US-EMLP (17X15) SR	0828880	10
20 mm	9 mm	silver	US-EMLP (20X9) SR	0828884	10
27 mm	7.93 mm	silver	US-EMLP (27X8) SR	0828890	10
27 mm	12.1 mm	silver	US-EMLP (27X12,5) SR	0828892	10
26.9 mm	14.9 mm	silver	US-EMLP (27X15) SR	0828894	10
27 mm	17.6 mm	silver	US-EMLP (27X18) SR	0828896	10
27 mm	27 mm	silver	US-EMLP (27X27) SR	0828898	10
34.65 mm	9 mm	silver	US-EMLP (35X9) SR	0829430	10
48.7 mm	14.9 mm	silver	US-EMLP (49X15) SR	0828902	10
59.7 mm	14.9 mm	silver	US-EMLP (60X15) SR	0828904	10
59.7 mm	14.9 mm	silver	US-EMLP (60X30) SR	0828906	10
84.9 mm	53.7 mm	silver	US-EMLP (85,6X54) SR	0828908	10
100 mm	60 mm	silver	US-EMLP (100X60) SR	0828910	10

Accessories	Type	Order No.	Pcs. / Pkt.
Magazine, for THERMOMARK CARD, for accommodating all US-... materials	THERMOMARK CARD-US-MAG1	5146451	1

UniSheet device marking for screwing or riveting

Common technical data	
Height	0.5 mm
Material	PVC
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-30 °C ... 80 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	Silicone-free

	Length	Width	Color	Type	Order No.	Pcs. / Pkt.
UniSheet, 0.5 mm thick, 4-section, lettering field size: 50 x 30 mm	59.7 mm	29.8 mm	white	US-EMSP (50X30)	0828786	10
UniSheet, 0.5 mm thick, 2-section, lettering field size: 75.6 x 54 mm	84.9 mm	53.7 mm	white	US-EMSP (75,6X54)	0828787	10
UniSheet, 0.5 mm thick, 2-section, lettering field size: 90 x 60 mm	100 mm	60 mm	white	US-EMSP (90X60)	0828788	10
UniSheet, 0.5 mm thick, 4-section, lettering field size: 50 x 30 mm	59.7 mm	29.8 mm	silver	US-EMSP (50X30) SR	0828928	10
UniSheet, 0.5 mm thick, 2-section, lettering field size: 75.6 x 54 mm	84.9 mm	53.7 mm	silver	US-EMSP (75,6X54) SR	0828930	10
UniSheet, 0.5 mm thick, 2-section, lettering field size: 90 x 60 mm	100 mm	60 mm	silver	US-EMSP (90X60) SR	0828932	10

Accessories	Type	Order No.	Pcs. / Pkt.
Magazine, for THERMOMARK CARD, for accommodating all US-... materials	THERMOMARK CARD-US-MAG1	5146451	1

Stick-on device marking, can be labeled with THERMOMARK ROLL

Common technical data	
Certification	
Color	white
Material	Polyester
Ambient temperature (operation)	-40 °C ... 150 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

	Length	Width	Type	Order No.	Pcs. / Pkt.
Lettering field size: 10 x 4 mm, 1 roll = 10,000 labels	10 mm	4 mm	EML (10X4)R	0815583	1
Lettering field size: 10 x 7 mm, 1 roll = 10,000 labels	10 mm	7 mm	EML (10X7)R	0816663	1
Lettering field size: 15 x 9 mm, 1 roll = 2500 labels	15 mm	9 mm	EML (15X9)R	0815677	1
Lettering field size: 16.5 x 5 mm, 1 roll = 2500 labels	16.5 mm	5 mm	EML (16,5X5)R	0816702	1
Lettering field size: 16 x 7 mm, 1 roll = 10,000 labels	16 mm	7 mm	EML (16X7)R	0818001	1
Lettering field size: 17.5 x 8 mm, 1 roll = 2500 labels	17.5 mm	8 mm	EML (17,5X8)R	0816744	1
Lettering field size: 19 x 6 mm, 1 roll = 2500 labels	19 mm	6 mm	EML (19X6)R	0816760	1
Lettering field size: 20 x 8 mm, 1 roll = 2500 labels	20 mm	8 mm	EML (20X8)R	0816786	1
Lettering field size: 25.4 x 12.7 mm, 1 roll = 2500 labels	25.4 mm	12.7 mm	EML (25,4X12,7)R	0816825	1
Lettering field size: 30 x 20 mm, 1 roll = 2500 labels	30 mm	20 mm	EML (30X20)R	0816922	1
Lettering field size: 38 x 17 mm, 1 roll = 2500 labels	38 mm	17 mm	EML (38X17)R	0816951	1
Lettering field size: 40 x 25 mm, 1 roll = 1000 labels	40 mm	25 mm	EML (40X25)R	0818027	1
Lettering field size: 40 x 8 mm, 1 roll = 1000 labels	40 mm	8 mm	EML (40X8)R	0816980	1
Lettering field size: 51 x 25 mm, 1 roll = 1000 labels	51 mm	25 mm	EML (51X25)R	0817028	1
Lettering field size: 70 x 32 mm, 1 roll = 1000 labels	70 mm	32 mm	EML (70X32)R	0817060	1
Lettering field size: 70 x 50 mm, 1 roll = 400 labels	70 mm	50 mm	EML (70X50)R	0817099	1
Lettering field size: 90 x 5 mm, 1 roll = 2500 labels	90 mm	5 mm	EML (90X5)R	0817109	1
Lettering field size: 100 x 73 mm, 1 roll = 300 labels	100 mm	73 mm	EML (100X73)R	0817125	1
Lettering field size: 100 x 90 mm, 1 roll = 250 labels	100 mm	90 mm	EML (100X90)R	0817154	1

Stick-on device marking, can be labeled with THERMOMARK ROLL

Common technical data	
Certification	
Color	silver/matt
Material	Polyester
Ambient temperature (operation)	-40 °C ... 150 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

	Length	Width	Type	Order No.	Pcs. / Pkt.
Lettering field size: 15 x 9 mm, 1 roll = 2500 labels	15 mm	9 mm	EML (15X9)R SR	0816032	1
Lettering field size: 21.5 x 21.5 mm, 1 roll = 2500 labels	21.5 mm	21.5 mm	EML (21,5X21,5)R SR	0816812	1
Lettering field size: 26.5 x 7.5 mm, 1 roll = 2500 labels	26.5 mm	7.5 mm	EML (26,5X7,5)R SR	0816841	1
Lettering field size: 26.5 x 12 mm, 1 roll = 2500 labels	26.5 mm	12 mm	EML (26,5X12)R SR	0816854	1
Lettering field size: 26.5 x 17.5 mm, 1 roll = 2500 labels	26.5 mm	17.5 mm	EML (26,5X17,5)R SR	0816883	1
Lettering field size: 26.5 x 18.5 mm, 1 roll = 2500 labels	26.5 mm	18.5 mm	EML (26,5X18,5)R SR	0816906	1
Lettering field size: 26.5 x 26.5 mm, 1 roll = 1000 labels	26.5 mm	26.5 mm	EML (26,5X26,5)R SR	0816919	1
Lettering field size: 40 x 15 mm, 1 roll = 1000 labels	40 mm	15 mm	EML (40X15)R SR	0815729	1
Lettering field size: 51 x 25 mm, 1 roll = 1000 labels	51 mm	25 mm	EML (51X25)R SR	0817002	1
Lettering field size: 70 x 32 mm, 1 roll = 1000 labels	70 mm	32 mm	EML (70X32)R SR	0817057	1
Lettering field size: 70 x 50 mm, 1 roll = 400 labels	70 mm	50 mm	EML (70X50)R SR	0817086	1
Lettering field size: 100 x 73 mm, 1 roll = 300 labels	100 mm	73 mm	EML (100X73)R SR	0817112	1

Stick-on device marking, can be labeled with THERMOMARK ROLL

Common technical data	
Material	Polyester
Inflammability class according to UL 94	V0
Ambient temperature (operation)	-40 °C ... 120 °C
Wipe resistance	DIN EN 61010-1 (VDE 0411-1)
Components	free from silicone and halogen

	Length	Width	Color	Type	Order No.	Pcs. / Pkt.
Lettering field size: 13 x 9 mm, 1 roll = 500 labels	13 mm	9 mm	white	EMLP (13X9)R	0819453	1
Lettering field size: 17 x 17 mm, 1 roll = 500 labels	17 mm	7 mm	white	EMLP (17X7)R	0826844	1
Lettering field size: 17.5 x 12 mm, 1 roll = 500 labels	17.5 mm	12 mm	white	EMLP (17,5X12)R	0819466	1
Lettering field size: 20 x 7 mm, 1 roll = 500 labels	20 mm	7 mm	white	EMLP (20X7)R	0819479	1
Lettering field size: 20 x 8 mm, 1 roll = 500 labels	20 mm	8 mm	white	EMLP (20X8)R	0819482	1
Lettering field size: 22 x 12 mm, 1 roll = 500 labels	22 mm	12 mm	white	EMLP (22X12)R	0819495	1
Lettering field size: 60 x 30 mm, 1 roll = 250 labels	60 mm	30 mm	white	EMLP (60X30)R	0819505	1
Lettering field size: 27 x 8 mm, 1 roll = 500 labels	27 mm	8 mm	silver	EMLP (27X8)R SR	0819518	1
Lettering field size: 27 x 12.5 mm, 1 roll = 500 labels	27 mm	12.5 mm	silver	EMLP (27X12,5)R SR	0819521	1
Lettering field size: 27 x 18 mm, 1 roll = 500 labels	27 mm	18 mm	silver	EMLP (27X18)R SR	0819534	1
Lettering field size: 22 x 22 mm, 1 roll = 500 labels	22 mm	22 mm	silver	EMLP (22X22)R SR	0825528	1
Lettering field size: 27 x 27 mm, 1 roll = 500 labels	27 mm	27 mm	silver	EMLP (27X27)R SR	0827467	1
Lettering field size: 45 x 15 mm, 1 roll = 500 labels	45 mm	15 mm	silver	EMLP (45X15)R SR	0819547	1

Tools

Processing and measuring tools from Phoenix Contact are offered for all electrical engineering applications.
The ergonomically designed tools for cutting, stripping, crimping, screwing, and testing impress with their optimum handling and quality. Specially hardened tool steels guarantee maximum service life.

Cable cutter for Cu and Al conductors

CUTFOX 12

CUTFOX 18

Common technical data
Certification

	Type	Order No.	Pcs. / Pkt.
One-hand cable cutter, for Cu and Al conductors, cutting capacity up to 12 mm Ø (up to 35 mm²)	CUTFOX 12	1212128	1
One-hand cable cutter, angled, for Cu and Al conductors, cutting capacity up to 18 mm Ø (up to 50 mm²)	CUTFOX 18	1212129	1

Cable cutter for Cu and Al conductors

CUTFOX 16 VDE

CUTFOX 25 VDE

Common technical data
Certification

	Type	Order No.	Pcs. / Pkt.
Cable cutter, precision blade with macro-notching, for copper and aluminum up to 50 mm², VDE 1000 V AC/ 1500 V DC tested	CUTFOX 16 VDE	1212126	1
Cable cutter, precision blade with macro-notching, for copper and aluminum up to 70 mm², VDE 1000 V AC/ 1500 V DC tested	CUTFOX 25 VDE	1212127	1

Diagonal cutter

Diagonal cutter, with optimized leverage, also suitable for piano wire,
VDE 1000 V AC/1500 V DC tested

Technical data
Certification

	Type	Order No.	Pcs. / Pkt.
	CUTFOX-S VDE	1212207	1

Combination pliers (VDE), with integrated cutting function

UNIFOX-C VDE

UNIFOX-CE VDE

Common technical data	
Certification	
Color	black

	Type	Order No.	Pcs. / Pkt.
Combination pliers, cross-notched grip area, integrated M8 - M10 ring wrench, VDE 1000 V AC/1500 V DC tested	UNIFOX-C VDE	1212202	1
Combination pliers, angled design, with opening spring and locking device, cross-notched grip area, integrated M8 - M10 ring wrench, VDE 1000 V AC/1500 V DC tested	UNIFOX-CE VDE	1212203	1

Needle-nose pliers (VDE), straight and angled

UNIFOX-P VDE

UNIFOX-PC VDE

Common technical data	
Certification	
Color	black

	Type	Order No.	Pcs. / Pkt.
Needle-nose pliers with cutter, notched grip area, VDE 1000 V AC/1500 V DC tested	UNIFOX-P VDE	1212204	1
Needle-nose pliers with cutter, angled 45°, notched grip area, VDE 1000 V AC/1500 V DC tested	UNIFOX-PC VDE	1212205	1

Stripping tool

Stripping tool, especially for short-circuit-proof cables from 1.5 - 6 mm², self-adjusting, stripping length up to 18 mm, cutting capacity:
solid up to 1.5 mm²,
stranded up to 10 mm²

Technical data	
Certification	
Conductor	1.5 mm² ... 6 mm²
Color	Black/green

	Type	Order No.	Pcs. / Pkt.
	WIREFOX 6SC	1212158	1

Stripping tool

WIREFOX 10

WIREFOX 16

Common technical data	
Certification	
Color	Black/green

	Conductor	Type	Order No.	Pcs. / Pkt.
Stripping tool, for cables and conductors from 0.02 - 10 mm², self-adjusting, stripping lengths up to 18 mm, cutting capacity: solid up to 1.5 mm², stranded up to 10 mm²	0.02 mm² ... 10 mm²	WIREFOX 10	1212150	1
Stripping tool, for cables and conductors from 4 - 16 mm², self-adjusting, stripping lengths up to 18 mm, cutting capacity: solid up to 1.5 mm², stranded up to 10 mm²	4 mm² ... 16 mm²	WIREFOX 16	1212155	1

Stripping tool

Common technical data	
Certification	
Color	black

	Type	Order No.	Pcs. / Pkt.
Stripping tool, for stripping cables with 4.5 mm - 40 mm Ø, insulation thickness of up to 4.5 mm, swivel blade for round, lengthwise, and spiral cuts	WIREFOX-D 40	1212161	1
Stripping tool, for stripping installation cables with 8 - 13 mm Ø, e.g., NYM 3 x 1.5 mm² to NYM 5 x 2.5 mm², single wire stripping 0.2 - 4 mm², with longitudinal and retractable cutting blade	WIREFOX-D 13	1212162	1

CRIMPFOX crimping pliers

Common technical data	
Certification	
Compression	Square crimp
Color	black

	Conductor	Type	Order No.	Pcs. / Pkt.
Crimping pliers, for turned contacts with a pin diameter of 1.6 / 2.5 / 4.0 mm	0.5 mm² ... 4 mm²	CRIMPFOX-TC 4	1212113	1
Crimping pliers, for turned contacts with pin diameter of 4.0 mm, three marked die stations, unlockable pressure lock, lateral entry, incl. positioning tool	6 mm² ... 10 mm²	CRIMPFOX-TC 10	1212114	1

CRIMPFOX crimping pliers

	Certification	Conductor	Compression	Color	Type	Order No.	Pcs. / Pkt.
Crimping pliers, for ferrules according to DIN 46228-1 and DIN 46228-4, three marked die stations, unlockable pressure lock, lateral entry		10 mm² ... 25 mm²	WM crimp	-	CRIMPFOX 25R	1212039	1
Crimping pliers, for ferrules according to DIN 46228-1 and DIN 46228-4, two marked die stations, unlockable pressure lock, lateral entry		35 mm² ... 50 mm²	WM crimp	-	CRIMPFOX 50R	1212041	1
Crimping pliers, for ferrules according to DIN 46228, 0.14 – 10 mm², unlockable pressure lock, lateral entry		0.14 mm² ... 10 mm²	Square crimp	-	CRIMPFOX 10S	1212045	1
Crimping pliers, for ferrules according to DIN 46228 0.14 - 16 mm², seven marked die stations, unlockable pressure lock, lateral entry	-	0.14 mm² ... 16 mm²	Trapezoidal crimp	black	CRIMPFOX 16-N	1212686	1

CRIMPFOX crimping pliers

Common technical data	
Color	black

	Conductor	Compression	Type	Order No.	Pcs. / Pkt.
Crimping pliers, for uninsulated cables and tube lugs with closed crimping sleeve, three marked die stations (red, blue, yellow), unlockable pressure lock, lateral entry	0.1 mm² ... 16 mm²	Indent crimp	CRIMPFOX-RC 16-N	1212688	1
Crimping pliers, for insulated cable lugs, three marked die stations (red, blue, yellow), unlockable pressure lock, lateral entry	0.5 mm² ... 6 mm²	Oval crimp	CRIMPFOX-RCI 6-N	1212687	1

CRIMPFOX crimping pliers

Crimping pliers, for uninsulated slip-on sleeves, 2.8 / 4.8 / 6.3 / 9.5 four marked die stations, unlockable pressure lock, lateral entry

Technical data	
Conductor	0.25 mm² ... 6 mm²
Compression	B crimp
Color	black

	Type	Order No.	Pcs. / Pkt.
	CRIMPFOX-SC 6-N	1212689	1

Screwdriver for slotted-head screws, not insulated

SF-SL 0,4X2,0-60

SF-SL 1,2X6,5-150

Common technical data	
Certification	

Blade width	Type	Order No.	Pcs. / Pkt.
2 mm	SF-SL 0,4X2,0-60	1212546	10
2.5 mm	SF-SL 0,4X2,5-75	1212547	10
3 mm	SF-SL 0,5X3,0-80	1212548	10
3.5 mm	SF-SL 0,6X3,5-100	1212549	10
3.5 mm	SF-SL 0,6X3,5-200	1212550	10
4 mm	SF-SL 0,8X4,0-100	1212551	10
5.5 mm	SF-SL 1,0X5,5-150	1212552	10
6.5 mm	SF-SL 1,2X6,5-150	1212553	10

Phillips screwdriver with Pozidriv® drive

SF-PZ 0-60

SF-PH 3-150

Common technical data	
Certification	

	Type	Order No.	Pcs. / Pkt.
	SF-PZ 0-60	1212562	10
	SF-PZ 1-80	1212563	10
	SF-PZ 2-100	1212564	10
	SF-PZ 3-150	1212565	10
	SF-PH 0-60	1212558	10
	SF-PH 1-80	1212559	10
	SF-PH 2-100	1212560	10
	SF-PH 3-150	1212561	10

TESTFOX voltage and continuity tester

Voltage tester, for DC and AC voltages from 12 V to 1000 V AC/1100 V DC, IP65

Technical data	
Certification	
Color	black

	Type	Order No.	Pcs. / Pkt.
	DUSPOL EXPERT	1209091	1

Mounting material

You can save time when securing connections and components in switchgear and control gear by using suitable mounting devices.
DIN rails form the basis for the “insides” of the control cabinet. End brackets ensure the secure hold of the components on the rails, even in the event of jolts and vibrations.

End bracket

End bracket, for snapping on to DIN rail NS 35, 5.15 mm wide, labeled with ZB 5, parking option for bridges and test plugs

Technical data	
Width	5.15 mm
Length	48.5 mm
Height	35 mm
Height NS 35/7,5	36.50 mm
Material	PA
Inflammability class in acc. with UL 94	V2
Color	gray

Type	Order No.	Pcs. / Pkt.
CLIPFIX 35-5	3022276	50

End bracket

End bracket, screw-on version, for NS 35 and NS 32, can be marked with ZB 6, KLM, KLM-A, and UBE

Technical data	
Width	9.5 mm
Length	50.5 mm
Height	35.3 mm
Height NS 35/7,5	36.80 mm
Material	PA
Inflammability class in acc. with UL 94	V2
Color	gray

Type	Order No.	Pcs. / Pkt.
E/UK	1201442	50

6

PHOENIX CONTACT
PLUGTRAB
PT-IQ-PTB-P
Green LED
Off
On
28 00 98 9
PLUGTRAB
PT-IQ-4x1
-24DC-P
U_C: 30 V DC
I_N: 700 mA
28 00 81 3
1
2
Output DC 24 V 10 A
13 14 – – –
DC OK
+ + +
PHOENIX CONTACT
Boost
DC OK
18-29.5 V
QUINT POWER
Input AC 100-240 V
L N

Surge protection and power supplies

Damage caused by surge voltages

The number of electrical devices damaged or destroyed by surge voltages is increasing year on year. This can prove expensive in terms of repairs and downtimes. In an industrial environment, the hazards are not only restricted to systems and devices. Building technology applications and even residential buildings may be affected.

Power supplies

Leading technology and high quality – power supplies ensure your system is always reliably supplied with power.

IQ technology is the key to an intelligent power supply solution. The uninterruptible power supply (UPS) monitors and optimizes the power storage. Avoid interruptions when working with the intelligent UPS for non-stop power.

A redundant power supply system is the result of the parallel connection of two power supplies. Optimize this solution with redundancy modules for maximum system availability.

DC/DC converters alter the voltage level, regenerate the voltage at the end of long cables or enable the creation of independent supply systems by means of electrical isolation.

Product range overview

Surge protection

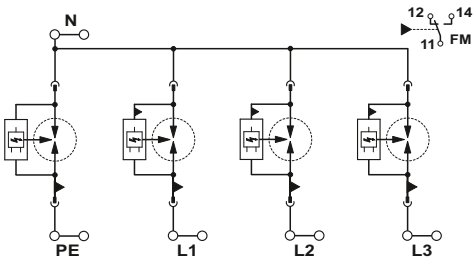
Type 1 lightning arresters	**90**
Type 1 and type 2 surge arresters	**92**
Type 2 surge arresters	**93**
Type 3 device protection	**95**
Plug-in signal circuit protection	**97**
Protective adapters for inserting in the data cable	**99**
For INTERBUS / PROFIBUS	**101**

Power supplies

QUINT POWER	**103**
TRIO POWER	**107**
UNO POWER	**111**
STEP POWER	**113**
Uninterruptible power supplies	**117**
Battery modules	**119**
Redundancy modules	**121**
DC/DC converters	**122**

The powerful plug-in and encapsulated lightning arresters meet the requirements for the performance data of protective devices according to the 1st protection stage for the power supply unit. The protective devices of the FLASHTRAB compact PLUS product range are self-monitoring and can also be tested with the CHECKMASTER mobile testing device. A remote indication contact enables permanent remote monitoring of the protective function. The modules can be used universally and this includes use in the intermediate meter.

For 5-conductor network TN-S / TT (L1, L2, L3, N, PE), encapsulated and triggered, FLASHTRAB compact PLUS

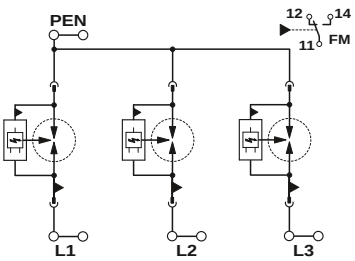


Technical data	
Certification	
IEC test classification / EN type	I / T1 / T1
Nominal voltage U_N	240 V AC (230/400 V AC ... 240/415 V AC)
Maximum continuous operating voltage U_C (L-N)	350 V AC
Maximum continuous operating voltage U_C (N-PE)	350 V AC
Impulse discharge curr. I_{imp} (10/350)µs	100 kA
Nominal discharge current I_n (8/20) µs (L-N)	25 kA
Nominal discharge current I_n (8/20) µs (N-PE)	100 kA
Follow current interrupt rating I_{fi} (L-N)	50 kA (264 V AC)
Follow current interrupt rating I_{fi} (N-PE)	100 A
Voltage protection level U_p (L-N)	≤ 1.5 kV
Voltage protection level U_p (N-PE)	≤ 1.5 kV
Width per channel	35 mm
Number of positions	4
Connection cross section	2.5 mm² - 35 mm²
[AWG]	13 - 2
Remote indication contact	PDT contact

	Type	Order No.	Pcs. / Pkt.
	FLT-CP-PLUS-3S-350	2882640	1

Accessories	Type	Order No.	Pcs. / Pkt.
L-N / L-PEN replacement plug	FLT-CP-PLUS-350-ST	2859913	10
N-PE replacement plug	FLT-CP-N/PE-350-ST	2859686	10

For 4-conductor networks TN-C (L1, L2, L3, PEN), encapsulated and triggered, FLASHTRAB compact PLUS

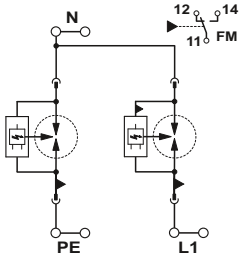


Technical data	
Certification	
IEC test classification / EN type	I / T1 / T1
Nominal voltage U_N	240 V AC (230/400 V AC ... 240/415 V AC)
Maximum continuous operating voltage U_C (L-PEN)	350 V AC
Impulse discharge curr. I_{imp} (10/350)µs	75 kA
Nominal discharge current I_n (8/20) µs (L-PEN)	25 kA
Follow current interrupt rating I_{fi} (L-PEN)	50 kA (264 V AC)
Voltage protection level U_p (L-PEN)	≤ 1.5 kV
Width per channel	35 mm
Number of positions	3
Connection cross section	2.5 mm² - 35 mm²
[AWG]	13 - 2
Remote indication contact	PDT contact

	Type	Order No.	Pcs. / Pkt.
	FLT-CP-PLUS-3C-350	2882653	1

Accessories	Type	Order No.	Pcs. / Pkt.
L-N / L-PEN replacement plug	FLT-CP-PLUS-350-ST	2859913	10

For 3-conductor networks TN-S / TT (L1, N, PE), encapsulated and triggered, FLASHTRAB compact PLUS

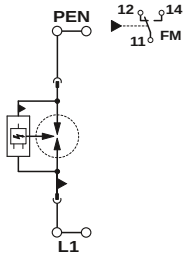


Technical data	
Certification	
IEC test classification / EN type	I / T1 / T1
Nominal voltage U_N	240 V AC (230/400 V AC ... 240/415 V AC)
Maximum continuous operating voltage U_C (L-N)	350 V AC
Maximum continuous operating voltage U_C (N-PE)	350 V AC
Impulse discharge curr. I_{imp} (10/350)µs	50 kA
Nominal discharge current I_n (8/20) µs (L-N)	25 kA
Nominal discharge current I_n (8/20) µs (N-PE)	100 kA
Follow current interrupt rating I_{fi} (L-N)	50 kA (264 V AC)
Follow current interrupt rating I_{fi} (N-PE)	100 A
Voltage protection level U_p (L-N)	≤ 1.5 kV
Voltage protection level U_p (N-PE)	≤ 1.5 kV
Width per channel	35 mm
Number of positions	2
Connection cross section	2.5 mm² - 35 mm²
[AWG]	13 - 2
Remote indication contact	PDT contact

	Type	Order No.	Pcs. / Pkt.
	FLT-CP-PLUS-1S-350	2882682	1

Accessories	Type	Order No.	Pcs. / Pkt.
L-N / L-PEN replacement plug	FLT-CP-PLUS-350-ST	2859913	10
N-PE replacement plug	FLT-CP-N/PE-350-ST	2859686	10

For 2-conductor networks TN-C (L1, PEN), encapsulated and triggered, FLASHTRAB compact PLUS



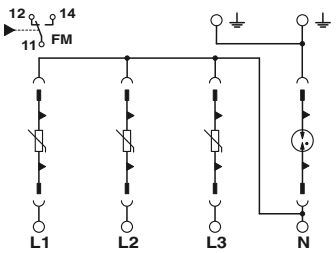
Technical data	
Certification	
IEC test classification / EN type	I / T1 / T1
Nominal voltage U_N	240 V AC (230/400 V AC ... 240/415 V AC)
Maximum continuous operating voltage U_C (L-PEN)	350 V AC
Impulse discharge curr. I_{imp} (10/350)µs	25 kA
Nominal discharge current I_n (8/20) µs (L-N)	25 kA
Nominal discharge current I_n (8/20) µs (L-PEN)	25 kA
Follow current interrupt rating I_{fi} (L-N)	50 kA (264 V AC)
Follow current interrupt rating I_{fi} (L-PEN)	50 kA (264 V AC)
Voltage protection level U_p (L-N)	≤ 1.5 kV
Voltage protection level U_p (L-PEN)	≤ 1.5 kV
Width per channel	35 mm
Number of positions	1
Connection cross section	2.5 mm² - 35 mm²
[AWG]	13 - 2
Remote indication contact	PDT contact

	Type	Order No.	Pcs. / Pkt.
	FLT-CP-PLUS-1C-350	2882695	1

Accessories	Type	Order No.	Pcs. / Pkt.
L-N / L-PEN replacement plug	FLT-CP-PLUS-350-ST	2859913	10

The plug-in VAL-MS-T1/T2... lightning arrester meets the requirements of type 1 arresters in lightning protection zones III and IV without additional risk assessment: furthermore, the requirements of type 2 surge arresters are also met. They are self-monitoring and can be tested with the CHECKMASTER mobile testing device. The state of the protective circuit is indicated on every plug optically without consuming energy. A remote indication contact enables permanent remote monitoring of the protective function.

For 5-conductor TN-S/TT (L1, L2, L3, N, PE,) mains networks, VALVETRAB MS-T1/T2....

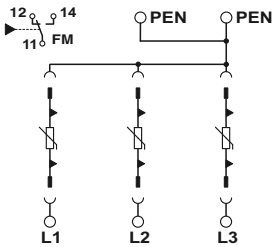


Common technical data	
Certification	CCA
IEC test classification / EN type	I, II / T1, T2 / T1, T2
Maximum continuous operating voltage U_C (N-PE)	264 V AC
Nominal discharge current I_n (8/20) µs (L-N)	12.5 kA
Nominal discharge current I_n (8/20) µs (N-PE)	50 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A (264 V AC)
Voltage protection level U_p (N-PE)	≤ 1.7 kV
Width per channel	17.5 mm
Number of positions	4
Connection cross section	1.5 mm² - 35 mm²
[AWG]	15 - 2

Nominal voltage U_N	Maximum continuous operating voltage U_C (L-N)	Impulse discharge curr. I_{imp} (10/350)µs	Voltage protection level U_p (L-N)	Remote indication contact	Type	Order No.	Pcs. / Pkt.
240 V AC (230/400 V AC ... 240/415 V AC)	335 V AC	50 kA	≤ 1.2 kV	PDT, 1-pos.	VAL-MS-T1/T2 335/12.5/3+1-FM	2800183	1
240 V AC (230/400 V AC ... 240/415 V AC)	335 V AC	50 kA (N-PE)	≤ 1.2 kV	-	VAL-MS-T1/T2 335/12.5/3+1	2800184	1
120 V AC	175 V AC	50 kA	≤ 0.8 kV	PDT, 1-pos.	VAL-MS-T1/T2 175/12.5/3+1-FM	2800670	1
120 V AC	175 V AC	50 kA (N-PE)	≤ 0.8 kV	-	VAL-MS-T1/T2 175/12.5/3+1	2800671	1

Accessories	Type	Order No.	Pcs. / Pkt.
L-N / L-PEN replacement plug	VAL-MS-T1/T2 335/12.5 ST	2800190	10
L-N / L-PEN replacement plug	VAL-MS-T1/T2 175/12.5 ST	2800676	10
N-PE replacement plug	F-MS-T1/T2 50 ST	2800191	10

For 4-conductor TN-C (L1, L2, L3, PEN) mains networks, VALVETRAB MS-T1/T2...



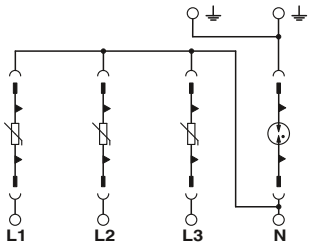
Common technical data	
Certification	CCA
IEC test classification / EN type	I, II / T1, T2 / T1, T2
Impulse discharge curr. I_{imp} (10/350)µs	37.5 kA
Nominal discharge current I_n (8/20) µs (L-PEN)	37.5 kA (3 x L)
Width per channel	17.5 mm
Number of positions	3
Connection cross section	1.5 mm² - 35 mm²
[AWG]	15 - 2

Nominal voltage U_N	Maximum continuous operating voltage U_C (L-PEN)	Voltage protection level U_p (L-PEN)	Remote indication contact	Type	Order No.	Pcs. / Pkt.
240 V AC (230/400 V AC ... 240/415 V AC)	335 V AC	≤ 1.2 kV	PDT, 1-pos.	VAL-MS-T1/T2 335/12.5/3+0-FM	2800188	1
240 V AC (230/400 V AC ... 240/415 V AC)	335 V AC	≤ 1.2 kV	-	VAL-MS-T1/T2 335/12.5/3+0	2800189	1
120 V AC	175 V AC	≤ 0.7 kV	PDT, 1-pos.	VAL-MS-T1/T2 175/12.5/3+0-FM	2800672	1
120 V AC	175 V AC	≤ 0.7 kV	-	VAL-MS-T1/T2 175/12.5/3+0	2800673	1

Accessories	Type	Order No.	Pcs. / Pkt.
L-N / L-PEN replacement plug	VAL-MS-T1/T2 335/12.5 ST	2800190	10
L-N / L-PEN replacement plug	VAL-MS-T1/T2 175/12.5 ST	2800676	10
N-PE replacement plug	F-MS-T1/T2 50 ST	2800191	10

The multi-channel, plug-in arrester blocks meet the requirements of type 2 surge protective devices. The protective devices are self-monitoring and can be tested with the CHECKMASTER mobile testing device. The state of the protective circuit is indicated on every plug optically without consuming energy. Sub-distributions and control cabinets are typical installation locations.

30/40 kA performance class, VALVETRAB MS

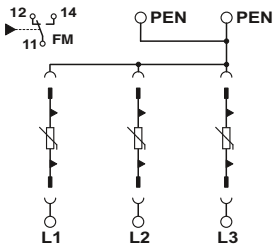


Common technical data	
Certification	
IEC test classification / EN type	II / T2 / T2
Nominal voltage U_N	230 V AC (400 V AC)
Maximum continuous operating voltage U_C (L-N)	335 V AC
Maximum continuous operating voltage U_C (N-PE)	260 V AC
Impulse discharge curr. I_{imp} (10/350)µs	12 kA (N-PE)
Nominal discharge current I_n (8/20) µs (L-N)	20 kA
Nominal discharge current I_n (8/20) µs (N-PE)	20 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A (260 V)
Max. discharge current $I_{max.}$ (8/20) µs	40 kA
Max. discharge current I_{max} (8/20) µs (L-N)	40 kA
Max. discharge current I_{max} (8/20) µs (N-PE)	40 kA
Voltage protection level U_p (L-N)	≤ 1.6 kV
Voltage protection level U_p (N-PE)	≤ 1.5 kV
Width per channel	17.5 mm
Number of positions	4
Connection cross section	0.5 mm² - 35 mm²
[AWG]	20 - 2

Remote indication contact	Type	Order No.	Pcs. / Pkt.
-	VAL-MS 320/3+1	2859178	1
PDT contact	VAL-MS 320/3+1/FM	2859181	1

Accessories	Type	Order No.	Pcs. / Pkt.
L-N/PE replacement plug	VAL-MS 320 ST	2838843	10
N-PE replacement plug	F-MS 12 ST	2817990	10

30/40 kA performance class, VALVETRAB MS



Common technical data	
Certification	
IEC test classification / EN type	II / T2 / T2
Maximum continuous operating voltage U_C (L-PEN)	335 V AC
Nominal discharge current I_n (8/20) µs (L-PEN)	60 kA (all channels)
Max. discharge current $I_{max.}$ (8/20) µs	40 kA
Max. discharge current I_{max} (8/20) µs (L-PEN)	120 kA (all channels)
Voltage protection level U_p (L-PEN)	≤ 1.5 kV
Width per channel	17.5 mm
Number of positions	3
Connection cross section	1.5 mm² - 35 mm²
[AWG]	15 - 2

Nominal voltage U_N	Remote indication contact	Type	Order No.	Pcs. / Pkt.
230 V AC (Max. 240/415 V AC)	PDT contact	VAL-MS 320/3+0-FM	2920243	1
230 V AC (230/400 V AC)	-	VAL-MS 320/3+0	2920230	1

Accessories	Type	Order No.	Pcs. / Pkt.
L-N/PE replacement plug	VAL-MS 320 ST	2838843	10
N-PE replacement plug	F-MS 12 ST	2817990	10

Surge protection plug for individual configuration, L-N plug VALVETRAB MS

Common technical data	
IEC test classification / EN type	II / T2 / T2
Impulse discharge curr. I_{imp} (10/350)µs	3 kA
Width per channel	17.5 mm
Number of positions	1

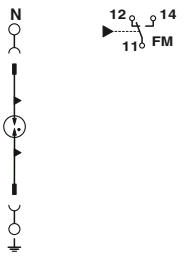
Certification	Nominal voltage U_N	Maximum continuous operating voltage U_C	Max. discharge current $I_{max.}$ (8/20) µs	Type	Order No.	Pcs. / Pkt.
CCA	230 V AC	385 V AC	40 kA	VAL-MS 230 IT ST	2807599	10
CCA	230 V AC	335 V AC	40 kA	VAL-MS 320 ST	2838843	10
CCA	120 V AC	150 V AC	40 kA	VAL-MS 120 ST	2807586	10
CCA	500 V AC	600 V AC	30 kA	VAL-MS 500 ST	2807609	10
CCA	230 V AC	350 V AC	20 kA	VAL-MS 350 VF ST	2856595	10

Base element for individual configuration, L-N plug VALVETRAB MS

Common technical data	
Certification	CCA
Nominal voltage U_N	500 V AC
Width per channel	17.5 mm
Number of positions	1
Connection cross section	1.5 mm² - 35 mm²
[AWG]	15 - 2

IEC test classification / EN type	Maximum continuous operating voltage U_C	Remote indication contact	Type	Order No.	Pcs. / Pkt.
-	600 V AC	PDT, 1-pos.	VAL-MS BE/FM	2817738	10
II	-	-	VAL-MS BE	2817741	10

Collective spark gap for individual configuration, F-MS 12



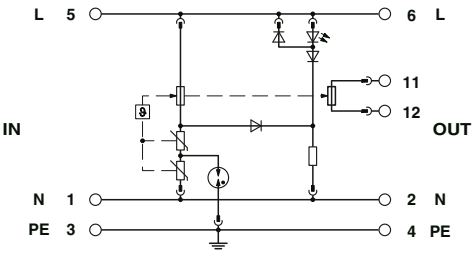
Technical data	
Certification	CCA
IEC test classification / EN type	II / T2 / T2
Nominal voltage U_N	230 V AC
Maximum continuous operating voltage U_C (N-PE)	260 V AC
Impulse discharge curr. I_{imp} (10/350)µs	12 kA
Nominal discharge current I_n (8/20) µs (N-PE)	20 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A (260 V)
Max. discharge current $I_{max.}$ (8/20) µs	40 kA
Max. discharge current I_{max} (8/20) µs (N-PE)	40 kA
Voltage protection level U_p (N-PE)	≤ 1.5 kV
Width per channel	17.5 mm
Number of positions	1
Connection cross section	0.5 mm² - 35 mm²
[AWG]	20 - 2
Remote indication contact	PDT contact

Type	Order No.	Pcs. / Pkt.
F-MS 12/FM	2817974	1

Accessories	Type	Order No.	Pcs. / Pkt.
N-PE replacement plug	F-MS 12 ST	2817990	10
Base element	VAL-MS BE	2817741	10

The powerful arresters meet the requirements for the performance data of protective devices in accordance with the 3rd protection stage for the power supply. The protective devices are self-monitoring. An optical display indicates the status of the protective circuit. A typical installation location is the power connection of termination devices, e.g. at the socket or in the subdistribution. Different designs are available for various applications.

For single-phase power supply units, TN-S / TT (L1, N, PE), MAINS-PLUGTRAB

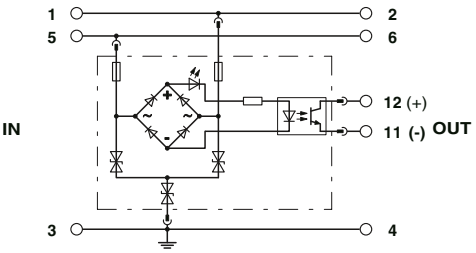


Technical data	
Certification	CCA / Ex:
IEC test classification / EN type	III / T3
Nominal voltage U_N	230 V AC
Nominal current I_N	26 A (30 °C)
Nominal discharge current I_n (8/20) µs	3 kA
Combined surge U_{OC}	6 kV
Voltage protection level U_p (L-N)	≤ 1.1 kV
Voltage protection level U_p (N-PE)	≤ 1.5 kV
Number of positions	2
Connection cross section	0.2 mm² - 4 mm²
[AWG]	24 - 12

	Type	Order No.	Pcs. / Pkt.
	PT 2-PE/S-230AC/FM	2858357	1

Accessories	Type	Order No.	Pcs. / Pkt.
Replacement plug	PT 2-PE/S-230AC-ST	2839347	10
MAINS-PLUGTRAB header	PT-BE/FM	2839282	10

For single-phase DC power supply units, MAINS-PLUGTRAB

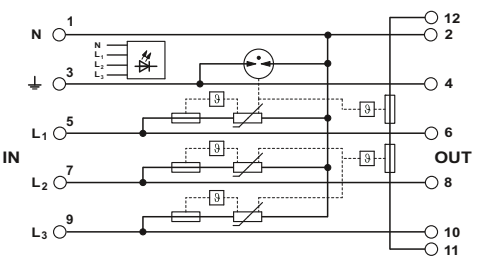


Technical data	
Certification	
IEC test classification / EN type	III / T3
Nominal voltage U_N	48 V DC
Nominal current I_N	26 A (30 °C)
Nominal discharge current I_n (8/20) µs	500 A
Combined surge U_{OC}	6 kV (for 12 Ω)
Voltage protection level U_p (L-N)	≤ 120 V
Voltage protection level U_p (N-PE)	≤ 120 V
Connection cross section	0.2 mm² - 4 mm²
[AWG]	24 - 12

	Type	Order No.	Pcs. / Pkt.
	PT 2+1-S-48DC/FM	2817958	10

Accessories	Type	Order No.	Pcs. / Pkt.
MAINS-PLUGTRAB plug	PT 2+1-S-48DC-ST	2839648	10
MAINS-PLUGTRAB header	PT-BE/FM	2839282	10

For three-phase power supply units, TN-S / TT (L1, L2, L3, N, PE), MAINS-PLUGTRAB



Technical data	
Certification	
IEC test classification / EN type	III / T3
Nominal voltage U_N	230 V AC (Max. 240/415 V AC)
Maximum continuous operating voltage U_C (L-N)	335 V AC
Maximum continuous operating voltage U_C (N-PE)	255 V AC
Nominal current I_N	26 A (30 °C)
Nominal discharge current I_n (8/20) µs	1.5 kA
Combined surge U_{OC}	4 kV
Voltage protection level U_p (L-N)	≤ 1.2 kV
Voltage protection level U_p (N-PE)	≤ 1.5 kV
Number of positions	4
Connection cross section	0.2 mm² - 4 mm²
[AWG]	24 - 12

	Type	Order No.	Pcs. / Pkt.
	PT 4-PE/S-230AC/FM	2882459	5

Accessories	Type	Order No.	Pcs. / Pkt.
Replacement plug	PT 4-PE/S-230AC-ST	2882462	5

Plug, MAINS-PLUGTRAB

Common technical data	
IEC test classification / EN type	III / T3
Nominal current I_N	26 A (30 °C)
Number of positions	2

Certification	Nominal voltage U_N	Combined surge U_{OC}	Voltage protection level U_p (L-N)	Voltage protection level U_p (N-PE)	Type	Order No.	Pcs. / Pkt.
CCA / Ex:	24 V AC	2 kV	≤ 180 V	≤ 550 V	PT 2-PE/S- 24AC-ST	2839318	10
CCA / Ex:	60 V AC	4 kV	≤ 400 V	≤ 700 V	PT 2-PE/S- 60AC-ST	2839321	10
CCA / Ex:	120 V AC	6 kV	≤ 620 V	≤ 850 V	PT 2-PE/S-120AC-ST	2839334	10
CCA / Ex:	230 V AC	6 kV	≤ 1.1 kV	≤ 1.5 kV	PT 2-PE/S-230AC-ST	2839347	10
	48 V DC	6 kV (for 12 Ω)	≤ 120 V	≤ 120 V	PT 2+1-S-48DC-ST	2839648	10

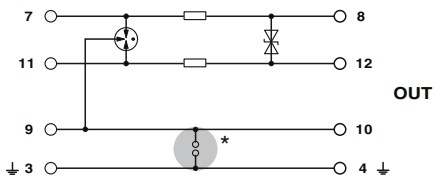
Base element, MAINS-PLUGTRAB

Technical data	
Certification	CCA / Ex:
IEC test classification / EN type	III
Nominal current I_N	26 A (≤ 30°C)
Connection cross section	0.2 mm² - 4 mm²
[AWG]	24 - 12

Type	Order No.	Pcs. / Pkt.
PT-BE/FM	2839282	10

This range of arresters offers the right solution for all applications in two, three or four-conductor systems. Thanks to impedance-neutral insertion and removal, sensitive signal circuits are not affected when replacing the protective connector. The base element always remains an integral part of the installation.

Double wire protection for a floating signal circuit

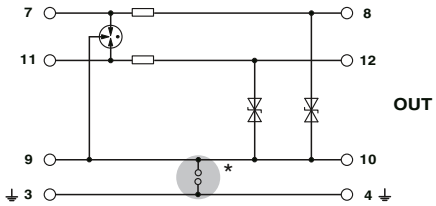


Common technical data	
IEC test classification / EN type	C1 / C2 / C3 / D1
Nominal current I_N	450 mA (45°C)
Nominal discharge current I_n (8/20) µs (Core-Core)	10 kA
Nominal discharge current I_n (8/20) µs (Core-Ground)	10 kA
Connection cross section	0.2 mm² - 4 mm²
AWG	24 - 12

Certification	Nominal voltage U_N	Maximum continuous operating voltage U_C (signal interface)	Output voltage limitation at 1 kV/µs static (Core-Core)	Type	Order No.	Pcs. / Pkt.
/ Ex:	5 V DC	6 V DC	≤ 10 V	PT 1X2- 5DC-ST	2856016	10
/ Ex:	12 V DC	13 V DC	≤ 18 V	PT 1X2-12DC-ST	2856029	10
/ Ex:	24 V DC	28 V DC	≤ 40 V	PT 1X2-24DC-ST	2856032	10

Accessories	Type	Order No.	Pcs. / Pkt.
Base element, with bridge between connections 3/4 (⏚) and 9/10	PT 1X2-BE	2856113	10
Base element, with gas-filled surge arrester between connections 3/4 (⏚) and 9/10	PT 1X2+F-BE	2856126	10
Shield fast connection, for Ø 3-6 mm	SSA 3-6	2839295	10
Shield fast connection, for Ø 5-10 mm	SSA 5-10	2839512	10

Protection for two conductors with common reference potential

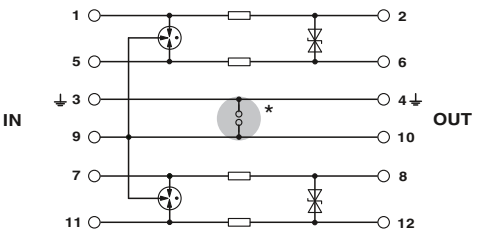


Common technical data	
IEC test classification / EN type	C1 / C2 / C3 / D1
Nominal current I_N	300 mA (45°C)
Nominal discharge current I_n (8/20) µs (Core-Ground)	10 kA
Connection cross section	0.2 mm² - 4 mm²
AWG	24 - 12

Certification	Nominal voltage U_N	Output voltage limitation at 1 kV/µs static (Core-Ground)	Type	Order No.	Pcs. / Pkt.
/ Ex:	5 V DC	≤ 10 V	PT 2X1- 5DC-ST	2856061	10
/ Ex:	12 V DC	≤ 18 V	PT 2X1-12DC-ST	2856074	10
/ Ex:	24 V DC	≤ 40 V	PT 2X1-24DC-ST	2856087	10

Accessories	Type	Order No.	Pcs. / Pkt.
Base element, with bridge between connections 3/4 (⏚) and 9/10	PT 2X1-BE	2856139	10
Base element, with gas-filled surge arrester between connections 3/4 (⏚) and 9/10	PT 2X1+F-BE	2856142	10
Shield fast connection, for Ø 3-6 mm	SSA 3-6	2839295	10
Shield fast connection, for Ø 5-10 mm	SSA 5-10	2839512	10

Double wire protection for two floating signal circuits

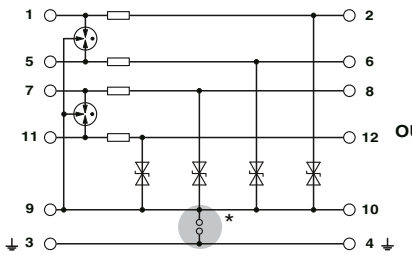


Common technical data	
IEC test classification / EN type	C1 / C2 / C3 / D1
Nominal current I_N	450 mA (45°C)
Nominal discharge current I_n (8/20) µs (Core-Core)	10 kA
Nominal discharge current I_n (8/20) µs (Core-Ground)	10 kA
Connection cross section	0.2 mm² - 4 mm²
AWG	24 - 12

Certification	Nominal voltage U_N	Output voltage limitation at 1 kV/µs static (Core-Core)	Type	Order No.	Pcs. / Pkt.
/ Ex:	5 V DC	≤ 10 V	PT 2X2- 5DC-ST	2838241	10
/ Ex:	12 V DC	≤ 18 V	PT 2X2-12DC-ST	2838254	10
/ Ex:	24 V DC	≤ 40 V	PT 2X2-24DC-ST	2838228	10

Accessories	Type	Order No.	Pcs. / Pkt.
Base element, with bridge between connections 3/4 (⏚) and 9/10	PT 2X2-BE	2839208	10
Base element, with gas-filled surge arrester between connections 3/4 (⏚) and 9/10	PT 2X2+F-BE	2839224	10
Shield fast connection, for Ø 3-6 mm	SSA 3-6	2839295	10
Shield fast connection, for Ø 5-10 mm	SSA 5-10	2839512	10

Protection for four conductors with common reference potential



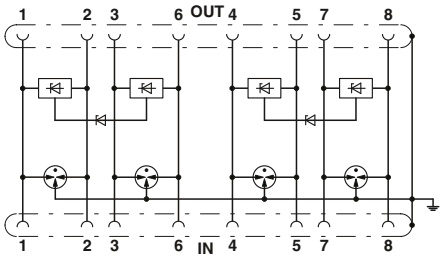
Common technical data	
IEC test classification / EN type	C1 / C2 / C3 / D1
Nominal current I_N	300 mA (45°C)
Nominal discharge current I_n (8/20) µs (Core-Ground)	10 kA
Connection cross section	0.2 mm² - 4 mm²
AWG	24 - 12

Certification	Nominal voltage U_N	Output voltage limitation at 1 kV/µs static (Core-Ground)	Type	Order No.	Pcs. / Pkt.
/ Ex:	5 V DC	≤ 10 V	PT 4X1- 5DC-ST	2838306	10
/ Ex:	12 V DC	≤ 18 V	PT 4X1-12DC-ST	2838319	10
/ Ex:	24 V DC	≤ 40 V	PT 4X1-24DC-ST	2838322	10
	48 V DC	≤ 70 V	PT 4X1-48DC-ST	2858014	10

Accessories	Type	Order No.	Pcs. / Pkt.
Base element, with bridge between connections 3/4 (⏚) and 9/10, with remote indication contact	PT 4X1-BE	2839363	10
Base element, with gas-filled surge arrester between connections 3/4 (⏚) and 9/10, with remote indication contact	PT 4X1+F-BE	2839376	10
Shield fast connection, for Ø 3-6 mm	SSA 3-6	2839295	10
Shield fast connection, for Ø 5-10 mm	SSA 5-10	2839512	10

For protecting various data cables as well as the analog and digital telecommunications interface. By removing the cap using an equipotential bonding conductor that is lead out, the protective device can be used on the DIN rail along with industrial termination devices to suit control cabinet requirements.

For LAN interface, Class Ea/Cat.6, up to 10 Gbps, DATATRAB

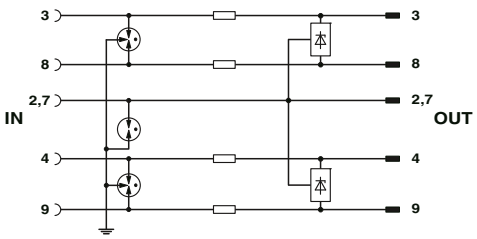


Technical data	
Certification	
IEC test classification / EN type	B2 / C1 / C2 / C3 / D1
Maximum continuous operating voltage U_C (signal interface)	≤ 3.3 V DC (± 60 V DC/PoE+)
Nominal current I_N	≤ 1.5 A (25 °C)
Nominal discharge current I_n (8/20) µs (Core-Core)	100 A
Output voltage limitation at 1 kV/µs static (Core-Core)	≤ 9 V
Output voltage limitation at 1 kV/µs static (Core-Ground)	≤ 700 V
Insertion loss aE (symmetrical)	1 dB (≤ 250 MHz)
Cut-off frequency fg (3 dB) in 100-Ω system (symmetrical)	> 500 MHz
Number of positions	8

	Type	Order No.	Pcs. / Pkt.
	DT-LAN-CAT.6+	2881007	1

Accessories	Type	Order No.	Pcs. / Pkt.
Patch cable, CAT6, pre-assembled	FL CAT6 PATCH 1,0	2891385	10

For RS-485 interface, DATATRAB

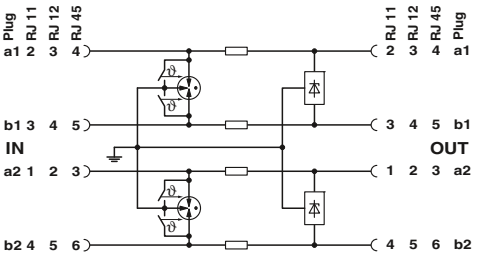


Technical data	
Certification	
IEC test classification / EN type	B2 / C1 / C2 / C3 / D1
Maximum continuous operating voltage U_C (signal interface)	12 V DC
Nominal current I_N	≤ 380 mA (25 °C)
Nominal discharge current I_n (8/20) µs (Core-Core)	≤ 5 kA
Output voltage limitation at 1 kV/µs static (Core-Core)	≤ 25 V
Output voltage limitation at 1 kV/µs static (Core-Ground)	≤ 700 V
Insertion loss aE (symmetrical)	typ. 0.3 dB (≤ 30 MHz)
Cut-off frequency fg (3 dB) in 100-Ω system (symmetrical)	typ. 50 MHz
Number of positions	5

	Type	Order No.	Pcs. / Pkt.
	DT-UFB-485/BS	2920612	1

Accessories	Type	Order No.	Pcs. / Pkt.
Assembled D-SUB cable, shielded, stranded (7-wire), pin to socket	VS-09-DSUB-20-LI-1,0	1656233	1

For analog telecommunications interface, DSL-capable, DATATRAB

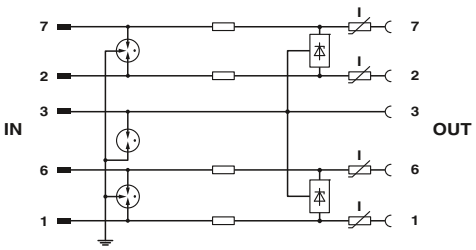


Technical data	
Certification	
IEC test classification / EN type	B2 / C1 / C2 / C3 / D1
Maximum continuous operating voltage U_C (signal interface)	185 V DC
Maximum continuous operating voltage U_C (signal interface)	130 V AC
Nominal current I_N	≤ 380 mA (25 °C)
Nominal discharge current I_n (8/20) µs (Core-Core)	≤ 5 kA
Output voltage limitation at 1 kV/µs static (Core-Core)	≤ 250 V
Output voltage limitation at 1 kV/µs static (Core-Ground)	≤ 250 V
Insertion loss aE (symmetrical)	typ. 0.5 dB (≤ 5 MHz)
Cut-off frequency fg (3 dB) in 100-Ω system (symmetrical)	typ. 50 MHz
Number of positions	4
Connection cross section	0.14 mm² - 1.5 mm²
AWG	28 - 16

Type	Order No.	Pcs. / Pkt.
DT-TELE-RJ45	2882925	1

Protective devices for data cables must be able to react quickly to transient surge voltage and may not falsify the signals. Various different protective devices are available for different connection versions. The DATATRAB protective adapter can be mounted on DIN rails after removing the cover cap.

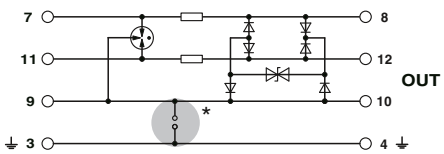
Surge protection for the INTERBUS remote bus



Common technical data	
Certification	
IEC test classification / EN type	B2 / C1 / C2 / C3 / D1
Maximum continuous operating voltage U_C (signal interface)	5.8 V DC
Nominal current I_N	≤ 180 mA (25 °C)
Nominal discharge current I_n (8/20) µs (Core-Core)	≤ 5 kA
Output voltage limitation at 1 kV/µs static (Core-Core)	≤ 15 V
Output voltage limitation at 1 kV/µs static (Core-Ground)	≤ 700 V
Insertion loss aE (symmetrical)	typ. 0.6 dB (≤ 10 MHz - 100/150 Ω)
Cut-off frequency fg (3 dB) in 100-Ω system (symmetrical)	≥ 100 MHz
Number of positions	5

Type	Order No.	Pcs. / Pkt.
DT-UFB-IB-RBI	2800055	1
DT-UFB-IB-RB0	2800056	1

Surge protection for PROFIBUS

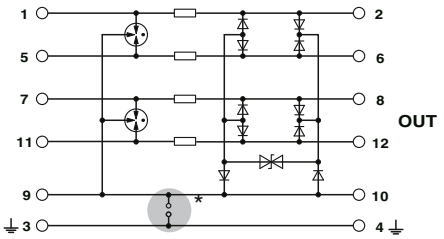


Common technical data	
Certification	
IEC test classification / EN type	C1 / C2 / C3 / D1
Nominal current I_N	450 mA (45°C)
Nominal discharge current I_n (8/20) µs (Core-Core)	10 kA
Nominal discharge current I_n (8/20) µs (Core-Ground)	10 kA
Insertion loss aE (symmetrical)	typ. 0.2 dB (≤ 5 MHz / 100 Ω)
Cut-off frequency fg (3 dB) in 100-Ω system (symmetrical)	typ. 70 MHz
Connection cross section	0.2 mm² - 4 mm²
AWG	24 - 12

Nominal voltage U_N	Maximum continuous operating voltage U_C (signal interface)	Maximum continuous operating voltage U_C (signal interface)	Nominal discharge current I_n (8/20) µs (Core-GND)	Output voltage limitation at 1 kV/µs static (Core-Core)	Output voltage limitation at 1 kV/µs static (Core-Ground)	Number of positions	Type	Order No.	Pcs. / Pkt.
5 V DC	5.2 V DC	3.6 V AC	-	≤ 15 V	≤ 15 V	2	PT 3-PB-ST	2858030	10
12 V DC	14 V DC	9.8 V AC	10 kA	≤ 25 V	≤ 25 V	3	PT 3-HF-12DC-ST	2858043	10

Accessories	Type	Order No.	Pcs. / Pkt.
Base element, with bridge between connections 3/4 (⏚) and 9/10	PT 1X2-BE	2856113	10

Surge protection for five signal wires



Common technical data	
IEC test classification / EN type	C1 / C2 / C3 / D1
Nominal current I_N	450 mA (45°C)
Nominal discharge current I_n (8/20) µs (Core-Core)	10 kA
Nominal discharge current I_n (8/20) µs (Core-Ground)	10 kA
Insertion loss aE (symmetrical)	typ. 0.2 dB (≤ 5 MHz / 100 Ω)
Cut-off frequency fg (3 dB) in 100-Ω system (symmetrical)	typ. 70 MHz
Number of positions	5
Connection cross section	0.2 mm² - 4 mm²
AWG	24 - 12

Certification	Nominal voltage U_N	Maximum continuous operating voltage U_C (signal interface)	Maximum continuous operating voltage U_C (signal interface)	Output voltage limitation at 1 kV/µs static (Core-Core)	Output voltage limitation at 1 kV/µs static (Core-Ground)	Type	Order No.	Pcs. / Pkt.
/ Ex:	5 V DC	5.2 V DC	3.6 V AC	≤ 15 V	≤ 15 V	PT 5-HF- 5 DC-ST	2838762	10
/ Ex:	12 V DC	14 V DC	9.8 V AC	≤ 25 V	≤ 25 V	PT 5-HF-12 DC-ST	2838775	10

Accessories	Type	Order No.	Pcs. / Pkt.
Base element, with bridge between connections 3/4 (⏚) and 9/10	PT 2X2-BE	2839208	10
Base element, with gas-filled surge arrester between connections 3/4 (⏚) and 9/10	PT 2X2+F-BE	2839224	10
Shield fast connection, for Ø 3-6 mm	SSA 3-6	2839295	10
Shield fast connection, for Ø 5-10 mm	SSA 5-10	2839512	10

QUINT POWER – power supplies for maximum system availability.
The unique SFB technology and preventive function monitoring maximize the availability of your application.
– Quick tripping of the standard power circuit breakers
– Preventive function monitoring
– Reliable starting of heavy loads

QUINT POWER with SFB technology, 1~, 24 V DC, 3.5 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 90 V DC ... 350 V DC
Current consumption (nominal load)	1.4 A (120 V AC) / 0.8 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 80 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	3.5 A (-25°C ... 60°C, U_{OUT} = 24 V DC) / 4 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 15 A (SFB technology, 12 ms)
Efficiency	> 88 % (for 230 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	0.5 kg / 32 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/24DC/ 3.5	2866747	1

QUINT POWER with SFB technology, 1~, 24 V DC, 5 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 90 V DC ... 350 V DC
Current consumption (nominal load)	1.2 A (120 V AC) / 0.6 A (230 V AC)
Mains buffering (I_N, typ.)	> 30 ms (120 V AC) / > 30 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	5 A (-25°C ... 60°C, U_{OUT} = 24 V DC) / 7.5 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 30 A (SFB technology, 12 ms)
Efficiency	> 90 % (for 230 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	0.7 kg / 40 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/24DC/ 5	2866750	1

QUINT POWER with SFB technology, 1~, 24 V DC, 10 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 90 V DC ... 350 V DC
Current consumption (nominal load)	2.24 A (120 V AC) / 1.33 A (230 V AC)
Mains buffering (I_N, typ.)	> 32 ms (120 V AC) / > 36 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	10 A (-25°C ... 60°C, U_{OUT} = 24 V DC) / 15 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 60 A (SFB technology, 12 ms)
Efficiency	> 92.5 % (for 230 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	1.1 kg / 60 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/24DC/10	2866763	1

QUINT POWER with SFB technology, 1~, 24 V DC, 20 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 90 V DC ... 350 V DC
Current consumption (nominal load)	5.1 A (120 V AC) / 2.3 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 20 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	20 A (-25°C ... 60°C, U_{OUT} = 24 V DC) / 26 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 120 A (SFB technology, 12 ms)
Efficiency	> 93 % (for 230 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	1.7 kg / 90 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/24DC/20	2866776	1

QUINT POWER with SFB technology, 1~, 24 V DC, 40 A

Technical data	
Certification	BV-CPS / Ex: / Applied for: BV
Input voltage range	85 V AC ... 264 V AC / 90 V DC ... 300 V DC
Current consumption (nominal load)	8.8 A (120 V AC) / 4.6 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 20 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	40 A (-25°C ... 60°C, U_{OUT} = 24 V DC) / 45 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 215 A (U_{In} ≥ 100 V AC, ≥ 120 V DC)
Efficiency	> 92 % (for 230 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	3.3 kg / 180 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/24DC/40	2866789	1

QUINT POWER with SFB technology, 3~, 24 V DC, 5 A

Technical data	
Certification	/ Ex:
Input voltage range	320 V AC ... 575 V AC / 450 V DC ... 800 V DC
Current consumption (nominal load)	3x 0.8 A (400 V AC) / 3x 0.7 A (500 V AC)
Mains buffering (I_N, typ.)	> 20 ms (400 V AC) / > 30 ms (500 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	5 A (-25°C ... 60°C, U_{OUT} = 24 V DC) / 7.5 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 30 A (SFB technology, 12 ms)
Efficiency	> 89 % (at 400 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	0.7 kg / 40 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 3AC/24DC/ 5	2866734	1

QUINT POWER with SFB technology, 3~, 24 V DC, 10 A

Technical data	
Certification	/ Ex:
Input voltage range	320 V AC ... 575 V AC / 450 V DC ... 800 V DC
Current consumption (nominal load)	3x 1.2 A (400 V AC) / 3x 1 A (500 V AC)
Mains buffering (I_N, typ.)	> 20 ms (400 V AC) / > 30 ms (500 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	10 A (-25°C ... 60°C, U_{OUT} = 24 V DC) / 15 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 60 A (12 ms)
Efficiency	> 93 % (at 400 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	1.1 kg / 60 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 3AC/24DC/10	2866705	1

QUINT POWER with SFB technology, 3~, 24 V DC, 20 A

Technical data	
Certification	/ Ex:
Input voltage range	320 V AC ... 575 V AC / 450 V DC ... 800 V DC
Current consumption (nominal load)	3x 1.6 A (400 V AC) / 3x 1.3 A (500 V AC)
Mains buffering (I_N, typ.)	> 20 ms (400 V AC) / > 30 ms (500 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	20 A (-25°C ... 60°C, U_{OUT} = 24 V DC) / 26 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 120 A (SFB technology, 12 ms)
Efficiency	> 93 % (at 400 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	1.5 kg / 69 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 3AC/24DC/20	2866792	1

QUINT POWER with SFB technology, 3~, 24 V DC, 40 A

Technical data	
Certification	/ Ex: / Applied for: BV
Input voltage range	320 V AC ... 575 V AC / 450 V DC ... 800 V DC
Current consumption (nominal load)	3x 2.1 A (400 V AC) / 3x 1.7 A (500 V AC)
Mains buffering (I_N, typ.)	> 25 ms (400 V AC) / > 35 ms (500 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	40 A (-25°C ... 60°C, U_{OUT} = 24 V DC) / 45 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 215 A (SFB technology, 12 ms)
Efficiency	> 94 % (at 400 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	2.5 kg / 96 mm x 130 mm x 176 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 3AC/24DC/40	2866802	1

QUINT POWER with SFB technology, 1~, 48 V DC, 5 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 90 V DC ... 350 V DC
Current consumption (nominal load)	2.8 A (120 V AC) / 1.2 A (230 V AC)
Mains buffering (I_N, typ.)	> 40 ms (120 V AC) / > 40 ms (230 V AC)
Nominal output voltage	48 V DC ±1%
Setting range of the output voltage	30 V DC ... 56 V DC (> 48 V constant capacity)
Output current	5 A (-25°C ... 60°C, U_{OUT} = 48 V DC) / 7.5 A (with POWER BOOST, -25 °C ... 40 °C permanently, U_{OUT} = 48 V DC) / 30 A (SFB technology, 12 ms)
Efficiency	> 92.5 % (for 230 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	1.1 kg / 60 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/48DC/ 5	2866679	1

QUINT POWER with SFB technology, 1~, 48 V DC, 10 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 90 V DC ... 350 V DC
Current consumption (nominal load)	5.1 A (120 V AC) / 2.3 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 20 ms (230 V AC)
Nominal output voltage	48 V DC ±1%
Setting range of the output voltage	30 V DC ... 56 V DC (> 48 V constant capacity)
Output current	10 A (-25°C ... 60°C, U_{OUT} = 48 V DC) / 13 A (with POWER BOOST, -25 °C ... 40 °C permanently, U_{OUT} = 48 V DC) / 60 A (SFB technology, 12 ms)
Efficiency	> 93 % (for 230 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	1.7 kg / 90 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/48DC/10	2866682	1

QUINT POWER with SFB technology, 1~, 12 V DC, 15 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 90 V DC ... 350 V DC
Current consumption (nominal load)	1.9 A (120 V AC) / 0.9 A (230 V AC)
Mains buffering (I_N, typ.)	> 65 ms (120 V AC) / > 65 ms (230 V AC)
Nominal output voltage	12 V DC ±1%
Setting range of the output voltage	5 V DC ... 18 V DC (> 12 V constant capacity)
Output current	15 A (-25 °C ... 60 °C) / 16 A (with POWER BOOST, -25°C ... 40°C permanent) / 60 A (U_{in} ≥ 100 V AC)
Efficiency	> 89 % (for 230 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	1.1 kg / 60 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/12DC/15	2866718	1

QUINT POWER with SFB technology, 1~, 12 V DC, 20 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 90 V DC ... 350 V DC
Current consumption (nominal load)	2.4 A (120 V AC) / 1.4 A (230 V AC)
Mains buffering (I_N, typ.)	> 40 ms (120 V AC) / > 40 ms (230 V AC)
Nominal output voltage	12 V DC ±1%
Setting range of the output voltage	5 V DC ... 18 V DC (> 12 V constant capacity)
Output current	20 A (-25 °C ... 60 °C) / 26 A (with POWER BOOST, -25°C ... 40°C permanent) / 120 A (U_{in} ≥ 100 V AC)
Efficiency	> 90 % (for 230 V AC and nominal values)
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	1.5 kg / 90 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/12DC/20	2866721	1

TRIO POWER – basic functionality at the highest level
Basic functionality combined with high quality and reliability - this makes the power supply units ideal for use in standard machine production.
– Robust design
– Minimize installation costs
– High operational reliability

TRIO POWER, 1~, 24 V DC, 2.5 A

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	0.95 A (120 V AC) / 0.5 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 100 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	2.5 A (-25°C ... 55°C)
Efficiency	> 86 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.5 kg / 32 mm x 130 mm x 115 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 1AC/24DC/ 2.5	2866268	1

TRIO POWER, 1~, 24 V DC, 5 A

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	1.65 A (120 V AC) / 0.9 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 110 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	5 A (-25°C ... 55°C)
Efficiency	> 89 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.6 kg / 40 mm x 130 mm x 115 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 1AC/24DC/ 5	2866310	1

TRIO POWER, 1~, 24 V DC, 10 A

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	3 A (100 V AC) / 1.5 A (240 V AC)
Mains buffering (I_N, typ.)	> 24 ms (120 V AC) / > 24 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	10 A (-25°C ... 55°C)
Efficiency	> 89 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	1.4 kg / 60 mm x 130 mm x 152.5 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 1AC/24DC/10	2866323	1

TRIO POWER, 1~, 24 V DC, 20 A

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	4.6 A (120 V AC) / 2.4 A (230 V AC)
Mains buffering (I_N, typ.)	> 13 ms (120 V AC) / > 13 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	20 A (-25°C ... 55°C)
Efficiency	> 91 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	2.2 kg / 115 mm x 130 mm x 152.5 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 1AC/24DC/20	2866381	1

TRIO POWER, 3~, 24 V DC, 5 A

Technical data	
Certification	
Input voltage range	320 V AC ... 575 V AC
Current consumption (nominal load)	3x 0.3 A (400 V AC) / 3x 0.25 A (500 V AC)
Mains buffering (I_N, typ.)	> 20 ms (400 V AC) / > 30 ms (480 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	5 A (-25°C ... 55°C)
Efficiency	> 89 % (at 400 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.6 kg / 40 mm x 130 mm x 115 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 3AC/24DC/ 5	2866462	1

TRIO POWER, 3~, 24 V DC, 10 A

Technical data	
Certification	
Input voltage range	320 V AC ... 575 V AC
Current consumption (nominal load)	3x 0.6 A (400 V AC) / 3x 0.5 A (480 V AC)
Mains buffering (I_N, typ.)	> 20 ms (400 V AC) / > 25 ms (480 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	10 A (-25°C ... 55°C)
Efficiency	> 89 % (at 400 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	1.3 kg / 60 mm x 130 mm x 152.5 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 3AC/24DC/10	2866459	1

TRIO POWER, 3~, 24 V DC, 20 A

Technical data	
Certification	
Input voltage range	320 V AC ... 575 V AC
Current consumption (nominal load)	3x 1.1 A (400 V AC) / 3x 0.8 A (480 V AC)
Mains buffering (I_N, typ.)	> 17 ms (400 V AC) / > 20 ms (480 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	20 A (-25°C ... 55°C)
Efficiency	> 91 % (at 400 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	2 kg / 115 mm x 130 mm x 152.5 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 3AC/24DC/20	2866394	1

TRIO POWER, 3~, 24 V DC, 40 A

Technical data	
Certification	
Input voltage range	320 V AC ... 575 V AC
Current consumption (nominal load)	3x 2 A (400 V AC) / 3x 1.6 A (480 V AC)
Mains buffering (I_N, typ.)	> 16 ms (400 V AC) / > 20 ms (480 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	40 A (-25°C ... 55°C)
Efficiency	> 91.5 % (at 400 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	2.9 kg / 139 mm x 130 mm x 190 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 3AC/24DC/40	2866404	1

TRIO POWER, 1~, 12 V DC, 5 A

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	1.1 A (100 V AC) / 0.5 A (240 V AC)
Mains buffering (I_N, typ.)	> 26 ms (120 V AC) / > 100 ms (230 V AC)
Nominal output voltage	12 V DC ±1%
Setting range of the output voltage	10 V DC ... 18 V DC (> 12 V constant capacity)
Output current	5 A (-25°C ... 55°C)
Efficiency	> 83 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.5 kg / 32 mm x 130 mm x 115 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 1AC/12DC/ 5	2866475	1

TRIO POWER, 1~, 12 V DC, 10 A

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	1.7 A (120 V AC) / 0.9 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 86 ms (230 V AC)
Nominal output voltage	12 V DC ±1%
Setting range of the output voltage	10 V DC ... 18 V DC (> 12 V constant capacity)
Output current	10 A (-25°C ... 55°C)
Efficiency	> 86 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.6 kg / 40 mm x 130 mm x 115 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 1AC/12DC/10	2866488	1

TRIO POWER, 1~, 48 V DC, 5 A

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	2.5 A (120 V AC) / 1.3 A (230 V AC)
Mains buffering (I_N, typ.)	> 15 ms (120 V AC) / > 16 ms (230 V AC)
Nominal output voltage	48 V DC ±1%
Setting range of the output voltage	30 V DC ... 56 V DC (> 48 V constant capacity)
Output current	5 A (-25°C ... 55°C)
Efficiency	> 89 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	1.4 kg / 60 mm x 130 mm x 152.5 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 1AC/48DC/ 5	2866491	1

TRIO POWER, 1~, 48 V DC, 10 A

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	4.6 A (120 V AC) / 2.4 A (230 V AC)
Mains buffering (I_N, typ.)	> 13 ms (120 V AC) / > 18 ms (230 V AC)
Nominal output voltage	48 V DC ±1%
Setting range of the output voltage	30 V DC ... 56 V DC (> 48 V constant capacity)
Output current	10 A (-25°C ... 55°C)
Efficiency	> 91 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	1.9 kg / 115 mm x 130 mm x 152.5 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
TRIO-PS/ 1AC/48DC/10	2866501	1

UNO POWER – compact basic functionality
The UNO POWER power supply units offer extremely compact basic functionality.
– Save energy thanks to high efficiency and low idling losses
– Wide-range input
– High temperature range

UNO POWER, 1~, 12 V DC, 30 W

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	0.5 A (120 V AC) / 0.3 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 120 ms (230 V AC)
Nominal output voltage	12 V DC ±1%
Output current	2.5 A (-25°C ... 55°C)
Efficiency	> 87 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.15 kg / 22.5 mm x 90 mm x 84 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
UNO-PS/1AC/12DC/ 30W	2902998	1

UNO POWER, 1~, 12 V DC, 55 W

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	1 A (120 V AC) / 0.6 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 90 ms (230 V AC)
Nominal output voltage	12 V DC ±1%
Output current	4.6 A (-25°C ... 55°C)
Efficiency	> 89 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.2 kg / 35 mm x 90 mm x 84 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
UNO-PS/1AC/12DC/ 55W	2902999	1

UNO POWER, 1~, 24 V DC, 100 W

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	1.7 A (120 V AC) / 1 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 100 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Output current	4.2 A (-25°C ... 55°C)
Efficiency	> 90 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.34 kg / 55 mm x 90 mm x 84 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
UNO-PS/1AC/24DC/100W	2902993	1

UNO POWER, 1~, 24 V DC, 30 W

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	0.5 A (120 V AC) / 0.3 A (230 V AC)
Mains buffering (I_N, typ.)	> 25 ms (120 V AC) / > 115 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Output current	1.25 A (-25°C ... 55°C)
Efficiency	> 88 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.15 kg / 22.5 mm x 90 mm x 84 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
UNO-PS/1AC/24DC/ 30W	2902991	1

UNO POWER, 1~, 24 V DC, 55 W

Technical data	
Certification	
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	1 A (120 V AC) / 0.6 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 85 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Output current	2.5 A (-25°C ... 55°C)
Efficiency	> 90 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.2 kg / 35 mm x 90 mm x 84 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
UNO-PS/1AC/24DC/ 60W	2902992	1

STEP POWER – for installation distributors and flat control panels
The low idling losses and high efficiency make STEP POWER the most energy efficient in its class.
– Flexible: snap onto the DIN rail or screw onto a level surface
– Energy savings: maximum energy efficiency and incredibly low idling losses

STEP POWER, 1~, 5 V DC, 6.5 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	0.5 A (120 V AC) / 0.3 A (230 V AC)
Mains buffering (I_N, typ.)	> 25 ms (120 V AC) / > 140 ms (230 V AC)
Nominal output voltage	5 V DC ±1%
Setting range of the output voltage	4 V DC ... 6.5 V DC (> 5 V constant capacity)
Output current	6.5 A (-25°C ... 55°C) / 7.1 A (-25 °C ... 40 °C permanent)
Efficiency	> 80 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.27 kg / 72 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/ 5DC/6.5	2868541	1

STEP POWER, 1~, 12 V DC, 1.5 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	0.3 A (120 V AC) / 0.2 A (230 V AC)
Mains buffering (I_N, typ.)	> 15 ms (120 V AC) / > 70 ms (230 V AC)
Nominal output voltage	12 V DC ±1%
Output current	1.5 A (-25°C ... 55°C) / 1.65 A (-25 °C ... 40 °C permanent)
Efficiency	> 84 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.11 kg / 36 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/12DC/1.5	2868567	1

STEP POWER, 1~, 12 V DC, 1 A

Technical data	
Certification	/ Applied for: cUL / UL
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	0.26 A (120 V AC) / 0.13 A (230 V AC)
Mains buffering (I_N, typ.)	> 15 ms (120 V AC) / > 90 ms (230 V AC)
Nominal output voltage	12 V DC ±1%
Output current	1 A (-25°C ... 55°C) / 1.1 A (-25 °C ... 40 °C permanent)
Efficiency	> 83 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.07 kg / 18 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/12DC/1	2868538	1

STEP POWER, 1~, 12 V DC, 3 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	0.6 A (120 V AC) / 0.3 A (230 V AC)
Mains buffering (I_N, typ.)	> 26 ms (120 V AC) / > 160 ms (230 V AC)
Nominal output voltage	12 V DC ±1%
Setting range of the output voltage	10 V DC ... 16.5 V DC (> 12 V constant capacity)
Output current	3 A (-25°C ... 55°C) / 3.3 A (-25 °C ... 40 °C permanent)
Efficiency	> 85 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.19 kg / 54 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/12DC/3	2868570	1

STEP POWER, 1~, 12 V DC, 5 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	0.8 A (120 V AC) / 0.5 A (230 V AC)
Mains buffering (I_N, typ.)	> 27 ms (120 V AC) / > 120 ms (230 V AC)
Nominal output voltage	12 V DC ±1%
Setting range of the output voltage	10 V DC ... 16.5 V DC (> 12 V constant capacity)
Output current	5 A (-25°C ... 55°C) / 5.5 A (-25 °C ... 40 °C permanent)
Efficiency	> 87 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.27 kg / 72 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/12DC/5	2868583	1

STEP POWER, 1~, 15 V DC, 4 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	0.8 A (120 V AC) / 0.5 A (230 V AC)
Mains buffering (I_N, typ.)	> 27 ms (120 V AC) / > 120 ms (230 V AC)
Nominal output voltage	15 V DC ±1%
Setting range of the output voltage	10 V DC ... 16.5 V DC (> 15 V constant capacity)
Output current	4 A (-25°C ... 55°C) / 4.4 A (-25 °C ... 40 °C permanent)
Efficiency	> 87 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.27 kg / 72 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/15DC/4	2868619	1

STEP POWER, 1~, 24 V DC, 0.5 A

Technical data	
Certification	/ Applied for: cUL / UL
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	0.28 A (120 V AC) / 0.13 A (230 V AC)
Mains buffering (I_N, typ.)	> 15 ms (120 V AC) / > 90 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Output current	0.5 A (-25°C ... 55°C) / 0.55 A (-25 °C ... 40 °C permanent)
Efficiency	> 84 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.07 kg / 18 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/24DC/0.5	2868596	1

STEP POWER, 1~, 24 V DC, 0.75 A

Technical data	
Certification	BSH ClassNK / Ex:
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	0.3 A (120 V AC) / 0.2 A (230 V AC)
Mains buffering (I_N, typ.)	> 15 ms (120 V AC) / > 70 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Output current	0.75 A (-25°C ... 55°C) / 0.83 A (-25 °C ... 40 °C permanent)
Efficiency	> 84 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.11 kg / 36 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/24DC/0.75	2868635	1

STEP POWER, 1~, 24 V DC, 1.75 A

Technical data	
Certification	BSH ClassNK / Ex:
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	0.6 A (120 V AC) / 0.3 A (230 V AC)
Mains buffering (I_N, typ.)	> 25 ms (120 V AC) / > 150 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	1.75 A (-25°C ... 55°C) / 1.9 A (-25 °C ... 40 °C permanent)
Efficiency	> 89 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.19 kg / 54 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/24DC/1.75	2868648	1

STEP POWER, 1~, 24 V DC, 2.5 A

Technical data	
Certification	BSH ClassNK / Ex:
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	0.8 A (120 V AC) / 0.4 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 100 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	2.5 A (-25°C ... 55°C) / 2.75 A (-25 °C ... 40 °C permanent)
Efficiency	> 86 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.27 kg / 72 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/24DC/2.5	2868651	1

STEP POWER, 1~, 24 V DC, 4.2 A

Technical data	
Certification	BSH ClassNK / Ex:
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	1.3 A (120 V AC) / 0.8 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 100 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	4.2 A (-25°C ... 55°C) / 4.4 A (-25 °C ... 40 °C permanent)
Efficiency	> 88 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.33 kg / 90 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/24DC/4.2	2868664	1

STEP POWER, 1~, 48 V DC, 2 A

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC / 95 V DC ... 250 V DC
Current consumption (nominal load)	1.3 A (120 V AC) / 0.8 A (230 V AC)
Mains buffering (I_N, typ.)	> 20 ms (120 V AC) / > 120 ms (230 V AC)
Nominal output voltage	48 V DC ±1%
Setting range of the output voltage	30 V DC ... 56 V DC (> 48 V constant capacity)
Output current	2 A (-25°C ... 55°C) / 2.2 A (-25 °C ... 40 °C permanent)
Efficiency	> 90 % (for 230 V AC and nominal values)
Signaling DC OK	LED
Weight / Dimensions W x H x D	0.33 kg / 90 mm x 90 mm x 61 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 55°C derating)

Type	Order No.	Pcs. / Pkt.
STEP-PS/ 1AC/48DC/2	2868680	1

The intelligent UPS system ensures maximum system availability.
Uninterruptible power supplies (UPS) continue to deliver power even if the supply network goes down.
An uninterruptible solution consists of three function units:
– Power supply
– UPS module
– Power storage

Uninterruptible power supply, 1 AC/1 AC, 500 VA

UPS module with IQ technology for 120 V AC/230 V AC applications

Technical data	
Certification	
Input voltage range	180 V AC ... 264 V AC
Buffer period	1 h (38 AH)
Nominal output voltage	120 V AC
Output current	5.2 A (120 V AC, -25°C ... 40°C) / 4.3 A (120 V AC, -25°C ... 50°C)
Efficiency	> 98 % (Mains operation)
Interfaces	IFS (Interface system data port)
Weight / Dimensions W x H x D	2.2 kg / 125 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 50°C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-UPS/ 1AC/ 1AC/500VA	2320270	1

Uninterruptible power supply, 24 V DC, 5 A

UPS module with IQ technology for 24 V DC applications

Technical data	
Certification	/ Ex: / Applied for: cUL / UL
Input voltage range	18 V DC ... 30 V DC
Current consumption (idling/charging process/max.)	10.3 mA / 1.8 A / 9.4 A
Buffer period	2 h (With battery module 12 AH)
Nominal output voltage	24 V DC
Output current	5 A (-25 °C ... 50 °C)
Efficiency	> 98 % (Mains operation, with charged power storage)
Signaling	LED, relay contact, interface/software
Interfaces	IFS (Interface system data port)
Weight / Dimensions W x H x D	0.5 kg / 35 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C

Type	Order No.	Pcs. / Pkt.
QUINT-UPS/ 24DC/ 24DC/ 5	2320212	1

Uninterruptible power supply, 24 V DC, 5 A, 1.3 Ah

UPS module with integrated power storage and IQ technology for 24 V DC applications

Technical data	
Certification	
Input voltage range	18 V DC ... 30 V DC
Buffer period	50 min (1 A) / 5 min (5 A)
Nominal output voltage	24 V DC
Output current	5 A (-25 °C ... 60 °C)
Max. power dissipation (Standby / buffer mode)	3.3 W (Battery operation)
Efficiency	> 97.1 % (with charged power storage device)
Signaling	LED, relay contact, interface/software
Interfaces	IFS (Interface system data port)
Weight / Dimensions W x H x D	2.2 kg / 88 mm x 138 mm x 125 mm
Ambient temperature (operation)	0 °C ... 40 °C

Type	Order No.	Pcs. / Pkt.
QUINT-UPS/ 24DC/ 24DC/ 5/1.3AH	2320254	1

Uninterruptible power supply, 24 V DC, 5 A, 3.4 Ah

UPS module with integrated power storage and IQ technology for 24 V DC applications

Technical data	
Certification	
Input voltage range	18 V DC ... 30 V DC
Buffer period	180 min (1 A) / 10 min (10 A)
Nominal output voltage	24 V DC
Output current	10 A (-25 °C ... 60 °C)
Max. power dissipation (Standby / buffer mode)	6.3 W (Battery operation)
Efficiency	> 97.6 % (with charged power storage device)
Signaling	LED, relay contact, interface/software
Interfaces	IFS (Interface system data port)
Weight / Dimensions W x H x D	3.8 kg / 120 mm x 169 mm x 125 mm
Ambient temperature (operation)	0 °C ... 40 °C

Type	Order No.	Pcs. / Pkt.
QUINT-UPS/ 24DC/ 24DC/10/3.4AH	2320267	1

Uninterruptible power supply, 24 V DC, 10 A

Uninterruptible power supply with IQ technology, 24 V/10 A.

Technical data	
Certification	/ Ex: / Applied for: cUL / UL
Input voltage range	18 V DC ... 30 V DC
Current consumption (idling/charging process/max.)	10.4 mA / 4 A / 19 A
Buffer period	3 h (With battery module 38 AH)
Nominal output voltage	24 V DC
Output current	10 A (-25 °C ... 50 °C)
Efficiency	> 98 % (Mains operation, with charged power storage)
Signaling	LED, relay contact, interface/software
Interfaces	IFS (Interface system data port)
Weight / Dimensions W x H x D	0.5 kg / 35 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C

Type	Order No.	Pcs. / Pkt.
QUINT-UPS/ 24DC/ 24DC/10	2320225	1

Uninterruptible power supply, 24 V DC, 20 A

Uninterruptible power supply with IQ technology, 24 V/20 A.

Technical data	
Certification	/ Ex: / Applied for: cUL / UL
Input voltage range	18 V DC ... 30 V DC
Current consumption (idling/charging process/max.)	10.5 mA / 6.9 A / 32.9 A
Buffer period	1 h (With battery module 38 AH)
Nominal output voltage	24 V DC
Output current	20 A (-25 °C ... 50 °C)
Efficiency	> 98 % (Mains operation, with charged power storage)
Signaling	LED, relay contact, interface/software
Interfaces	IFS (Interface system data port)
Weight / Dimensions W x H x D	0.6 kg / 40 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C

Type	Order No.	Pcs. / Pkt.
QUINT-UPS/ 24DC/ 24DC/20	2320238	1

Uninterruptible power supply, 24 V DC, 40 A

Uninterruptible power supply with IQ technology, 24 V/40 A.

Technical data	
Certification	/ Ex: / Applied for: cUL / UL
Input voltage range	18 V DC ... 30 V DC
Current consumption (idling/charging process/max.)	10.6 mA / 6.9 A / 51.9 A
Buffer period	0.5 h (With battery module 38 AH)
Nominal output voltage	24 V DC
Output current	40 A (-25 °C ... 50 °C)
Efficiency	> 99 % (Mains operation, with charged power storage)
Signaling	LED, relay contact, interface/software
Interfaces	IFS (Interface system data port)
Weight / Dimensions W x H x D	0.7 kg / 47 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C

Type	Order No.	Pcs. / Pkt.
QUINT-UPS/ 24DC/ 24DC/40	2320241	1

Buffer module

Short-term mains interruptions are bridged by QUINT BUFFER, an absolutely maintenance-free buffer module.

Technical data	
Certification	/ Ex: / Applied for: UL
Input voltage range	18 V DC ... 30 V DC
Current consumption (idling/charging process/max.)	0.1 A / 0.7 A
Buffer period	0.2 s (40 A) / 8 s (1 A)
Nominal output voltage	24 V DC (depending on the input voltage)
Output current	40 A / 120 A (SFB technology, 12 ms)
Max. power dissipation (Standby / buffer mode)	48 W (buffer mode)
Efficiency	> 99 % (with charged power storage device)
Weight / Dimensions W x H x D	1.1 kg / 64 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 80 °C

Type	Order No.	Pcs. / Pkt.
QUINT-BUFFER/24DC/24DC/40	2320393	1

Battery module, 24 V DC/1.3 Ah

UPS-BAT/VRLA – power storage with lead AGM technology for maximum buffer times, 24 V DC, 1.3 Ah. With additional signal contact for automatic detection and communication with the QUINT UPS-IQ.

Technical data	
Certification	/ Ex: / Applied for: UL
Nominal input voltage	24 V DC
Nominal capacity	1.3 Ah
Output current	max. 15 A
Weight / Dimensions W x H x D	1.7 kg / 54 mm x 157 mm x 113 mm
Ambient temperature (operation)	0 °C ... 40 °C

Type	Order No.	Pcs. / Pkt.
UPS-BAT/VRLA/24DC/ 1.3AH	2320296	1

Battery module, 24 V DC/3.4 Ah

UPS-BAT/VRLA – power storage with lead AGM technology for maximum buffer times, 24 V DC, 3.4 Ah. With additional signal contact for automatic detection and communication with the QUINT UPS-IQ.

Technical data	
Certification	/ Ex: / Applied for: UL
Nominal input voltage	24 V DC
Nominal capacity	3.4 Ah
Output current	max. 25 A
Weight / Dimensions W x H x D	3.3 kg / 85 mm x 191 mm x 110 mm
Ambient temperature (operation)	0 °C ... 40 °C

Type	Order No.	Pcs. / Pkt.
UPS-BAT/VRLA/24DC/ 3.4AH	2320306	1

Battery module, 24 V DC/7.2 Ah

UPS-BAT/VRLA – power storage with lead AGM technology for maximum buffer times, 24 V DC, 7.2 Ah. With additional signal contact for automatic detection and communication with the QUINT UPS-IQ.

Technical data	
Certification	/ Ex: / Applied for: UL
Nominal input voltage	24 V DC
Nominal capacity	7.2 Ah
Output current	max. 50 A
Weight / Dimensions W x H x D	5.9 kg / 135 mm x 202 mm x 110 mm
Ambient temperature (operation)	0 °C ... 40 °C

Type	Order No.	Pcs. / Pkt.
UPS-BAT/VRLA/24DC/ 7.2AH	2320319	1

Battery module, 24 V DC/12 Ah

UPS-BAT/VRLA – power storage with lead AGM technology for maximum buffer times, 24 V DC, 12 Ah. With additional signal contact for automatic detection and communication with the QUINT UPS-IQ.

Technical data	
Certification	/ Ex: / Applied for: UL
Nominal input voltage	24 V DC
Nominal capacity	12 Ah
Output current	max. 50 A
Weight / Dimensions W x H x D	8.9 kg / 202 mm x 202 mm x 110 mm
Ambient temperature (operation)	0 °C ... 40 °C

Type	Order No.	Pcs. / Pkt.
UPS-BAT/VRLA/24DC/12AH	2320322	1

Battery module, 24 V DC/38 Ah

UPS-BAT/VRLA – power storage with lead AGM technology for maximum buffer times, 24 V DC, 38 Ah. With additional signal contact for automatic detection and communication with the QUINT UPS-IQ.

Technical data	
Certification	/ Applied for: cUL / UL
Nominal input voltage	24 V DC
Nominal capacity	38 Ah
Output current	max. 50 A
Weight / Dimensions W x H x D	26 kg / 330 mm x 210 mm x 197 mm
Ambient temperature (operation)	0 °C ... 40 °C

Type	Order No.	Pcs. / Pkt.
UPS-BAT/VRLA/24DC/38AH	2320335	1

Maximum availability due to redundancy modules
To prevent the effects of errors on the load in a redundant system and increase the operational reliability, power supply units should be decoupled from one another with a redundancy module. Only by doing this, is it possible to ensure that an incorrectly connected power supply unit or a short circuit does not have an effect on the load.

Active redundancy module, 24 V DC, 2 x 10 A, 1 x 20 A

For DIN rail mounting with monitoring functions, input: 24 V DC, output: 24 V DC/2 x 10 A or 1 x 20 A

Technical data	
Certification	/ Ex:
Input voltage range	18 V DC ... 28 V DC (SELV)
Nominal output voltage	0.1 V (< DC input)
Output current	20 A (Increasing power) / 10 A (Redundancy)
Efficiency	> 98 %
Weight / Dimensions W x H x D	0.4 kg / 32 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-ORING/24DC/2X10/1X20	2320173	1

Active redundancy module, 24 V DC, 2 x 20 A, 1 x 40 A

For DIN rail mounting with monitoring functions, input: 24 V DC, output: 24 V DC/2 x 20 A or 1 x 40 A

Technical data	
Certification	/ Ex:
Input voltage range	18 V DC ... 28 V DC (SELV)
Nominal output voltage	0.2 V (< DC input)
Output current	40 A (Increasing power) / 20 A (Redundancy)
Efficiency	> 98 %
Weight / Dimensions W x H x D	0.6 kg / 38 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-ORING/24DC/2X20/1X40	2320186	1

Active redundancy module, 24 V DC, 2 x 40 A, 1 x 80 A

For DIN rail mounting with monitoring functions, input: 24 V DC, output: 24 V DC/2 x 40 A or 1 x 80 A

Technical data	
Certification	/ Ex:
Input voltage range	18 V DC ... 28 V DC (SELV)
Nominal output voltage	0.2 V (< DC input)
Output current	80 A (Increasing power) / 40 A (Redundancy)
Efficiency	> 98 %
Weight / Dimensions W x H x D	0.9 kg / 66 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-ORING/24DC/2X40/1X80	2902879	1

DC/DC converters alter the voltage level, regenerate the voltage at the end of long cables or enable the creation of independent supply systems by means of electrical isolation.
There are numerous fields of application for DC/DC converters. As the name suggests, they convert voltages in order to match different voltage levels to one another. On long supply lines, they raise the voltage to compensate for voltage drops.
The unique SFB technology and preventive function monitoring maximize the availability of your application.
– Quick tripping of the standard power circuit breakers
– Preventive function monitoring
– Reliable starting of heavy loads

QUINT POWER, DC/DC converter, 12 V DC/24 V DC, 5 A

Converts 18 to 32 V DC voltages into a regulated and adjustable DC output voltage.

Technical data	
Certification	/ Ex:
Input voltage range	9 V DC ... 18 V DC
Current consumption (nominal load)	15 A (12 V DC)
Mains buffering (I_N, typ.)	> 3 ms (12 V DC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	5 A (-25 °C ... 60 °C) / 6.25 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 30 A (SFB technology, 12 ms)
Efficiency	> 90 %
Signalling DC OK and Boost	LED, active switching output
Weight / Dimensions W x H x D	0.7 kg / 32 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/12DC/24DC/ 5	2320131	1

QUINT POWER, DC/DC converter, 24 V DC/12 V DC, 8 A

Converts 18 to 32 V DC voltages into a regulated and adjustable DC output voltage.

Technical data	
Certification	ABS ClassNK / Ex:
Input voltage range	18 V DC ... 32 V DC
Current consumption (nominal load)	6 A
Mains buffering (I_N, typ.)	> 10 ms (24 V DC)
Nominal output voltage	12 V DC ±1%
Setting range of the output voltage	5 V DC ... 18 V DC (> 12 V constant capacity)
Output current	8 A (-25 °C ... 60 °C) / 10 A (with POWER BOOST, -25 °C ... 40 °C permanent, U_{OUT} = 12 V DC) / 48 A (SFB technology, 12 ms)
Efficiency	> 90 %
Signalling DC OK and Boost	LED, active switching output
Weight / Dimensions W x H x D	0.7 kg / 32 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/24DC/12DC/ 8	2320115	1

QUINT POWER, DC/DC converter, 24 V DC/24 V DC, 5 A

Converts 18 to 32 V DC voltages into a regulated and adjustable DC output voltage.

Technical data	
Certification	ABS ClassNK / Ex:
Input voltage range	18 V DC ... 32 V DC
Current consumption (nominal load)	7 A (24 V, I_{BOOST})
Mains buffering (I_N, typ.)	> 10 ms (24 V DC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	5 A (-25 °C ... 60 °C) / 6.25 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 30 A (SFB technology, 12 ms)
Efficiency	> 92 %
Signalling DC OK and Boost	LED, active switching output
Weight / Dimensions W x H x D	0.7 kg / 32 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/24DC/24DC/ 5	2320034	1

QUINT POWER, DC/DC converter, 24 V DC/24 V DC, 10 A

Converts 18 to 32 V DC voltages into a regulated and adjustable DC output voltage.

Technical data	
Certification	/ Ex:
Input voltage range	18 V DC ... 32 V DC
Current consumption (nominal load)	14 A (24 V, I_{BOOST})
Mains buffering (I_N, typ.)	> 12 ms (24 V DC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	10 A (-25 °C ... 60 °C) / 12.5 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 60 A (SFB technology, 12 ms)
Efficiency	> 92 %
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	0.9 kg / 48 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/24DC/24DC/10	2320092	1

QUINT POWER, DC/DC converter, 24 V DC/24 V DC, 20 A

Converts 18 to 32 V DC voltages into a regulated and adjustable DC output voltage.

Technical data	
Certification	/ Ex:
Input voltage range	18 V DC ... 32 V DC
Current consumption (nominal load)	28 A (24 V, I_{BOOST})
Mains buffering (I_N, typ.)	> 10 ms (24 V DC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	20 A (-25 °C ... 60 °C) / 25 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 120 A (SFB technology, 12 ms)
Efficiency	> 93 %
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	1.7 kg / 82 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/24DC/24DC/20	2320102	1

QUINT POWER, DC/DC converter, 24 V DC/48 V DC, 5 A

Converts 18 to 32 V DC voltages into a regulated and adjustable DC output voltage.

Technical data	
Certification	/ Ex:
Input voltage range	18 V DC ... 32 V DC
Current consumption (nominal load)	14 A (24 V DC)
Mains buffering (I_N, typ.)	> 12 ms (24 V DC)
Nominal output voltage	48 V DC ±1%
Setting range of the output voltage	30 V DC ... 56 V DC (> 48 V constant capacity)
Output current	5 A (-25 °C ... 60 °C) / 6.25 A (with POWER BOOST, -25 °C ... 40 °C permanently, U_{OUT} = 48 V DC) / 30 A (SFB technology, 12 ms)
Efficiency	> 92.5 %
Signalling DC OK and Boost	LED, active switching output, relay contact
Weight / Dimensions W x H x D	0.9 kg / 48 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/24DC/48DC/ 5	2320128	1

QUINT POWER, DC/DC converter, 48 V DC/24 V DC, 5 A

Converts 18 to 32 V DC voltages into a regulated and adjustable DC output voltage.

Technical data	
Certification	/ Ex:
Input voltage range	30 V DC ... 60 V DC
Current consumption (nominal load)	3.5 A (48 V DC)
Mains buffering (I_N, typ.)	> 14 ms (48 V DC)
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	5 A (-25 °C ... 60 °C) / 6.25 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC) / 30 A (SFB technology, 12 ms)
Efficiency	> 91.5 %
Signalling DC OK and Boost	LED, active switching output
Weight / Dimensions W x H x D	0.7 kg / 32 mm x 130 mm x 125 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

Type	Order No.	Pcs. / Pkt.
QUINT-PS/48DC/24DC/ 5	2320144	1

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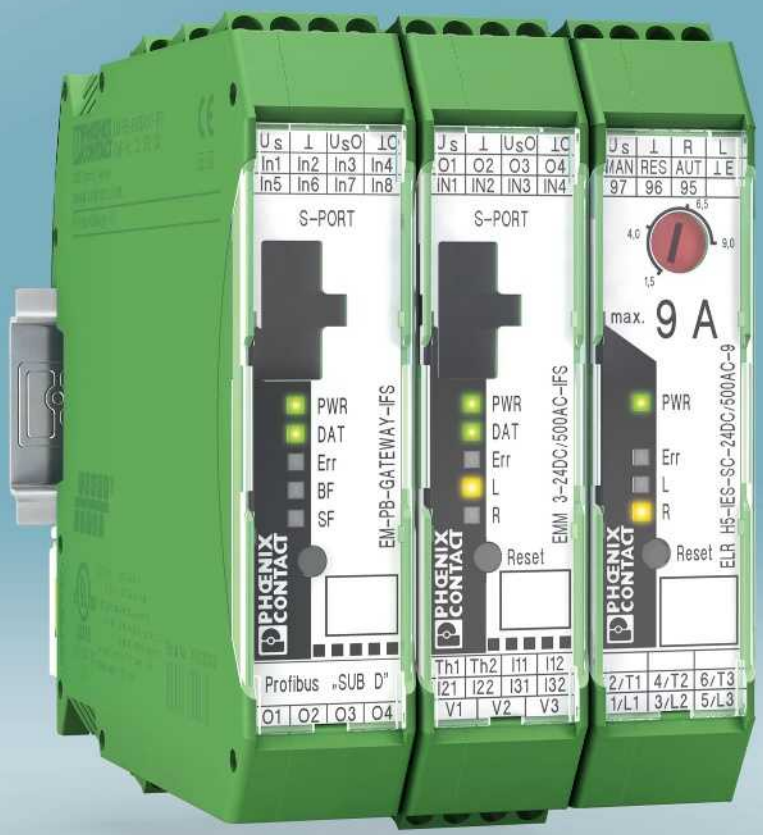
S-PORT
PWR
DAT
Err
BF
SF
EM-PB-GATEWAY-IFS
PHOENIX CONTACT
Profibus „SUB D"
S-PORT
PWR
DAT
Err
L
R
Reset
EMM 3-24DC/500AC-IFS
PHOENIX CONTACT
max. 9 A
PWR
Err
L
R
Reset
ELR H5-IES-SC-24DC/500AC-9
PHOENIX CONTACT

Interface technology and switching devices

Productivity is the decisive criterion when it comes to competitiveness. This applies across all sectors: in power supply, in the automotive industry, petrochemicals, the food industry, machine building, and traffic technology. This is true whether dealing with "traditional" areas of application in production and process engineering or future applications in new fields. Here, automation is the key factor for cost reduction, flexibility, simplification, and quality.

The controller is at the heart of automation. It communicates with the sensors and actuators on the field side, i.e., it acquires and processes signals, and sends commands to the process.

Interface technology ensures smooth communication between the process and controller. It is characterized by a diverse range of tasks. For all aspects of control, products from Phoenix Contact provide signal conditioning for digital, analog, serial, and power signals. Whether you need them for conversion, switching, isolation, adaptation, amplification, connection or supply tasks – our modules can take care of it all.

Throughout the world, our close proximity to customers ensures expert technical consultation and a constant flow of new product ideas. We take these ideas and use them to develop products that can be put into series production and that meet the most exacting technical and quality demands of the market. Our innovative systems shorten planning and installation time, save valuable space in the control cabinet, and simplify startup, maintenance, servicing, and troubleshooting. This gives you a decisive number of simple, safe, and cost-optimized installation concepts – or put more simply: Phoenix Contact systems increase the productivity of your plants.

Product range overview

Electronic switching devices and motor control

CONTACTRON hybrid motor starters **126**

Measurement and control technology

MINI Analog highly compact signal conditioners **129**
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Relay modules

RIFLINE complete **145**
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System cabling for controllers

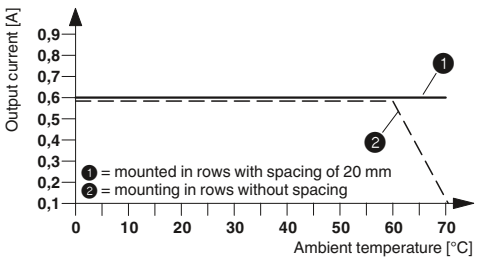
VARIOFACE wiring interface **154**

Hybrid motor starters

CONTACTRON hybrid motor starters combine up to four functions for your motor control in a single device no wider than your thumb. They have a significantly longer service life than mechanical contactors, save a great deal of space, and can be quickly wired.

"4-in-1" hybrid motor starter for reversing 3~ AC motors up to 550 V, rated control supply voltage of 24 V DC

Four functions: right and left contactor, motor protection relay, and emergency stop up to category 3

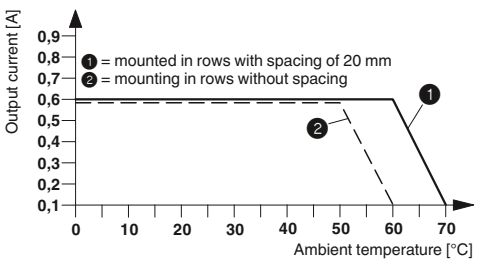


Common technical data	
Certification	/ Ex:
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Rated control supply voltage U_S	24 V DC
Rated control supply voltage range	0.8 ... 1.25
Rated control supply current I_S at U_S	40 mA
Rated actuating voltage U_C	24 V DC
Rated actuating voltage range	0.8 ... 1.25
Rated actuating current I_C at U_C	5 mA
Output voltage range	42 V AC ... 550 V AC
Surge current	100 A (t = 10 ms)
Leakage current	0 mA
Ambient temperature (operation)	-25 °C ... 70 °C
EC-type examination certificate according to ATEX	II (2) G, II (2) D PTB 07 ATEX 3145
Dimensions W / H / D	22.5 mm / 99 mm / 114.5 mm

Load current	Min. load current	Residual voltage	Type	Order No.	Pcs. / Pkt.
max. 600 mA (see derating curve)	75 mA	< 0.2 V	ELR H5-IES-SC- 24DC/500AC-0,6	2900582	1
max. 2.4 A (see derating curve)	180 mA	< 0.3 V	ELR H5-IES-SC- 24DC/500AC-2	2900414	1
max. 9 A (see derating curve)	1.5 A	< 0.5 V	ELR H5-IES-SC- 24DC/500AC-9	2900421	1

"4-in-1" hybrid motor starter for reversing 3~ AC motors up to 550 V, rated control supply voltage of 230 V AC

Four functions: right and left contactor, motor protection relay, and emergency stop up to category 3

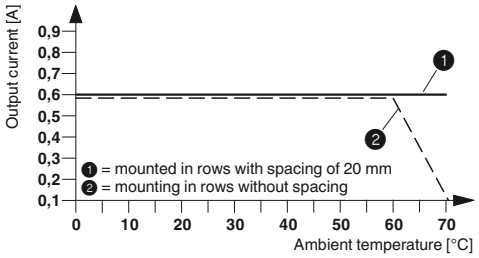


Common technical data	
Certification	/ Ex:
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Rated control supply voltage U_S	230 V AC (50/60 Hz)
Rated control supply voltage range	0.4 ... 1.1
Rated control supply current I_S at U_S	4 mA
Rated actuating voltage U_C	230 V AC
Rated actuating voltage range	0.4 ... 1.1
Rated actuating current I_C at U_C	7 mA
Output voltage range	42 V AC ... 550 V AC
Surge current	100 A (t = 10 ms)
Leakage current	0 mA
Ambient temperature (operation)	-25 °C ... 70 °C
EC-type examination certificate according to ATEX	II (2) G, II (2) D PTB 07 ATEX 3145
Dimensions W / H / D	22.5 mm / 99 mm / 114.5 mm

Load current	Min. load current	Residual voltage	Type	Order No.	Pcs. / Pkt.
max. 600 mA (see derating curve)	75 mA	< 0.2 V	ELR H5-IES-SC-230AC/500AC-0,6	2900692	1
max. 2.4 A (see derating curve)	180 mA	< 0.3 V	ELR H5-IES-SC-230AC/500AC-2	2900420	1
max. 9 A (see derating curve)	1.5 A	< 0.5 V	ELR H5-IES-SC-230AC/500AC-9	2900422	1

“3-in-1” hybrid motor starter for starting 3~ AC motors up to 550 V, rated control supply voltage of 24 V DC

Three functions: right contactor, motor protection relay, and emergency stop up to category 3

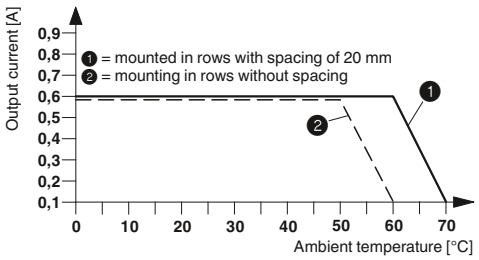


Common technical data	
Certification	/ Ex:
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Rated control supply voltage U_S	24 V DC
Rated control supply voltage range	0.8 ... 1.25
Rated control supply current I_S at U_S	40 mA
Rated actuating voltage U_C	24 V DC
Rated actuating voltage range	0.8 ... 1.25
Rated actuating current I_C at U_C	5 mA
Output voltage range	42 V AC ... 550 V AC
Surge current	100 A (t = 10 ms)
Leakage current	0 mA
Ambient temperature (operation)	-25 °C ... 70 °C
EC-type examination certificate according to ATEX	II (2) G, II (2) D PTB 07 ATEX 3145
Dimensions W / H / D	22.5 mm / 99 mm / 114.5 mm

Load current	Min. load current	Residual voltage	Type	Order No.	Pcs. / Pkt.
max. 600 mA (see derating curve)	75 mA	< 0.2 V	ELR H3-IES-SC- 24DC/500AC-0,6	2900566	1
max. 2.4 A (see derating curve)	180 mA	< 0.3 V	ELR H3-IES-SC- 24DC/500AC-2	2900567	1
max. 9 A (see derating curve)	1.5 A	< 0.5 V	ELR H3-IES-SC- 24DC/500AC-9	2900569	1

“3-in-1” hybrid motor starter for starting 3~ AC motors up to 550 V, rated control supply voltage of 230 V AC

Three functions: right contactor, motor protection relay, and emergency stop up to category 3

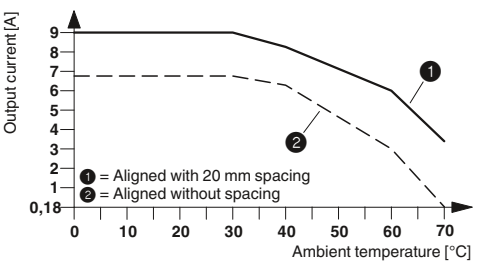


Common technical data	
Certification	/ Ex:
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Rated control supply voltage U_S	230 V AC (50/60 Hz)
Rated control supply voltage range	0.4 ... 1.1
Rated control supply current I_S at U_S	4 mA
Rated actuating voltage U_C	230 V AC
Rated actuating voltage range	0.4 ... 1.1
Rated actuating current I_C at U_C	7 mA
Output voltage range	42 V AC ... 550 V AC
Surge current	100 A (t = 10 ms)
Leakage current	0 mA
Ambient temperature (operation)	-25 °C ... 70 °C
EC-type examination certificate according to ATEX	II (2) G, II (2) D PTB 07 ATEX 3145
Dimensions W / H / D	22.5 mm / 99 mm / 114.5 mm

Load current	Min. load current	Residual voltage	Type	Order No.	Pcs. / Pkt.
max. 600 mA (see derating curve)	75 mA	< 0.2 V	ELR H3-IES-SC-230AC/500AC-0,6	2900689	1
max. 2.4 A (see derating curve)	180 mA	< 0.3 V	ELR H3-IES-SC-230AC/500AC-2	2900568	1
max. 9 A (see derating curve)	1.5 A	< 0.5 V	ELR H3-IES-SC-230AC/500AC-9	2900570	1

“2-in-1” hybrid motor starter for reversing 3~ AC motors up to 550 V/3 x 9 A

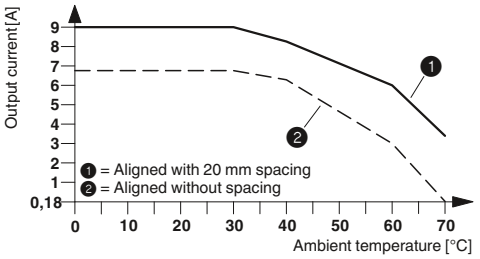
Two functions: right contactor, left contactor



Common technical data	
Certification	
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Output voltage range	42 V AC ... 550 V AC
Load current	max. 9 A (see derating curve)
Min. load current	0 A
Surge current	100 A (t = 10 ms)
Residual voltage	< 0.5 V
Leakage current	0 mA
Ambient temperature (operation)	-25 °C ... 70 °C
Dimensions W / H / D	22.5 mm / 99 mm / 114.5 mm

Rated control supply voltage U_S	Rated control supply voltage range	Rated control supply current I_S at U_S	Rated actuating voltage U_C	Rated actuating voltage range	Rated actuating current I_C at U_C	Type	Order No.	Pcs. / Pkt.
24 V DC	0.8 ... 1.25	40 mA	24 V DC	0.8 ... 1.25	5 mA	ELR H5-SC- 24DC/500AC-9	2900538	1
230 V AC (50/60 Hz)	0.4 ... 1.1	4 mA	230 V AC	0.4 ... 1.1	7 mA	ELR H5-SC-230AC/500AC-9	2900539	1

“1-in-1” hybrid motor starter for starting 3~ AC motors up to 550 V/3 x 9 A



Common technical data	
Certification	
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Output voltage range	42 V AC ... 550 V AC
Load current	max. 9 A (see derating curve)
Min. load current	0 A
Surge current	100 A (t = 10 ms)
Residual voltage	< 0.5 V
Leakage current	0 mA
Ambient temperature (operation)	-25 °C ... 70 °C
Dimensions W / H / D	22.5 mm / 99 mm / 114.5 mm

Rated control supply voltage U_S	Rated control supply voltage range	Rated control supply current I_S at U_S	Rated actuating voltage U_C	Rated actuating voltage range	Rated actuating current I_C at U_C	Type	Order No.	Pcs. / Pkt.
24 V DC	0.8 ... 1.25	40 mA	24 V DC	0.8 ... 1.25	5 mA	ELR H3-SC- 24DC/500AC-9	2900530	1
230 V AC (50/60 Hz)	0.4 ... 1.1	4 mA	230 V AC	0.4 ... 1.1	7 mA	ELR H3-SC-230AC/500AC-9	2900531	1

3-phase loop bridge for modules in the CONTACTRON family with 22.5 mm housing width

Bridging of 2 to 10 devices, with 0.3 m long connecting cable, up to 575 V AC/3 x 25 A, 2.5 mm² cross section

Type	Order No.	Pcs. / Pkt.
BRIDGE- 2	2900746	1
BRIDGE- 3	2900747	1
BRIDGE- 4	2900748	1
BRIDGE- 5	2900749	1
BRIDGE- 6	2900750	1
BRIDGE- 7	2900751	1
BRIDGE- 8	2900752	1
BRIDGE- 9	2900753	1
BRIDGE-10	2900754	1

3-phase loop bridge for modules in the CONTACTRON family with 22.5 mm housing width

Bridging of 2 to 10 devices, with 3 m long connecting cable, up to 575 V AC/3 x 25 A, 2.5 mm² cross section

Type	Order No.	Pcs. / Pkt.
BRIDGE- 2-3M	2901543	1
BRIDGE- 3-3M	2901656	1
BRIDGE- 4-3M	2901659	1
BRIDGE- 5-3M	2901545	1
BRIDGE- 6-3M	2901697	1
BRIDGE- 7-3M	2901698	1
BRIDGE- 8-3M	2901700	1
BRIDGE- 9-3M	2901701	1
BRIDGE-10-3M	2901702	1

Highly compact signal conditioners

MINI Analog creates space in your control cabinets. With an overall width of just 6.2 mm, you can measure temperatures and convert, electrically isolate, and filter analog signals.

Configurable 3-way signal conditioner

3-way signal conditioner for electrically isolating, converting, amplifying, and filtering analog signals, input/output configurable via DIP switches

Common technical data	
Certification	/ Ex:
Input signal	0 V ... 5 V / 1 V ... 5 V / 0 V ... 10 V / 2 V ... 10 V / 0 mA ... 20 mA / 4 mA ... 20 mA
Input resistance U / I	approx. 100 kΩ / approx. 50 Ω
Output signal	0 V ... 5 V / 1 V ... 5 V / 0 V ... 10 V / 2 V ... 10 V / 0 mA ... 20 mA (please indicate if different setting when ordering) / 4 mA ... 20 mA
Load U / I	≥ 10 kΩ / < 500 Ω (at 20 mA)
Supply voltage	19.2 V DC ... 30 V DC
Current consumption	< 19 mA (Current output, at 24 V DC incl. load) < 9 mA (Voltage output, at 24 V DC incl. load)
Test voltage	1.5 kV (50 Hz, 1 min.)
Transmission error	≤ 0.1 % (of final value)
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C

Connection method	Type	Order No.	Pcs. / Pkt.
Screw connection	MINI MCR-SL-UI-UI-NC	2864150	1
Spring-cage conn.	MINI MCR-SL-UI-UI-SP-NC	2864163	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Standard signal 3-way signal conditioner

3-way signal conditioner for electrically isolating analog signals with set input and output range

Common technical data	
Supply voltage	19.2 V DC ... 30 V DC
Test voltage	1.5 kV (50 Hz, 1 min.)
Transmission error	≤ 0.1 % (of final value)
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C

Certification	Input signal	Input resistance U / I	Output signal	Load U / I	Current consumption	Connection method	Type	Order No.	Pcs. / Pkt.
/ Ex:	0 V ... 10 V	approx. 100 kΩ	4 mA ... 20 mA	≤ 500 Ω	< 20 mA	Screw connection	MINI MCR-SL-U-I-4	2813525	1
/ Ex:	0 V ... 10 V	approx. 100 kΩ	4 mA ... 20 mA	≤ 500 Ω	< 20 mA	Spring-cage conn.	MINI MCR-SL-U-I-4-SP	2813583	1
/ Ex:	0 mA ... 20 mA	approx. 50 Ω	0 V ... 10 V	≥ 10 kΩ	< 9 mA	Screw connection	MINI MCR-SL-I-U-0	2813541	1
/ Ex:	0 mA ... 20 mA	approx. 50 Ω	0 V ... 10 V	≥ 10 kΩ	< 9 mA	Spring-cage conn.	MINI MCR-SL-I-U-0-SP	2813554	1
/ Ex:	4 mA ... 20 mA	approx. 50 Ω	0 V ... 10 V	≥ 10 kΩ	< 9 mA	Screw connection	MINI MCR-SL-I-U-4	2813538	1
/ Ex:	4 mA ... 20 mA	approx. 50 Ω	0 V ... 10 V	≥ 10 kΩ	< 9 mA	Spring-cage conn.	MINI MCR-SL-I-U-4-SP	2813554	1
/ Ex:	0 mA ... 20 mA / 4 mA ... 20 mA	approx. 50 Ω	0 mA ... 20 mA / 4 mA ... 20 mA	< 500 Ω (at 20 mA)	< 20 mA	Screw connection	MINI MCR-SL-I-I	2864406	1
/ Ex:	0 mA ... 20 mA / 4 mA ... 20 mA	approx. 50 Ω	0 mA ... 20 mA / 4 mA ... 20 mA	< 500 Ω (at 20 mA)	< 20 mA	Spring-cage conn.	MINI MCR-SL-I-I-SP	2864723	1
/ Ex:	0 V ... 10 V / -10 V ... 10 V	approx. 100 kΩ	0 V ... 10 V / -10 V ... 10 V	≥ 10 kΩ	< 20 mA	Screw connection	MINI MCR-SL-U-U	2864684	1
/ Ex:	0 V ... 10 V / -10 V ... 10 V	approx. 100 kΩ	0 V ... 10 V / -10 V ... 10 V	≥ 10 kΩ	< 20 mA	Spring-cage conn.	MINI MCR-SL-U-U-SP	2864697	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Configurable 3-way signal conditioner

3-way signal conditioner for electrically isolating, converting, amplifying, and filtering voltages up to 30 V, input/output configurable via DIP switches

Common technical data	
Certification	/ Ex:
Input signal	0 V ... 24 V / 0 V ... 30 V
Input resistance U / I	approx. 125 kΩ (0 ... 24 V)
Output signal	0 V ... 5 V / 1 V ... 5 V / 0 V ... 10 V / 2 V ... 10 V / 0 mA ... 20 mA / 4 mA ... 20 mA
Load U / I	> 10 kΩ / < 500 Ω (at 20 mA)
Supply voltage	19.2 V DC ... 30 V DC
Current consumption	< 19 mA (at 24 V DC incl. load)
Test voltage	1.5 kV (50 Hz, 1 min.)
Transmission error	< 0.1 % (of final value)
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C

Connection method	Type	Order No.	Pcs. / Pkt.
Screw connection	MINI MCR-SL-U-UI-NC	2865007	1
Spring-cage conn.	MINI MCR-SL-U-UI-SP-NC	2810078	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Configurable 4-way signal duplicator

4-way signal duplicator, for electrically isolating, duplicating, and filtering analog signals, input/output configurable via DIP switches

Common technical data	
Certification	/ Ex:
Input signal	0 V ... 10 V / 1 V ... 5 V / 0 mA ... 20 mA / 4 mA ... 20 mA
Input resistance U / I	approx. 100 kΩ / approx. 50 Ω
Output signal	2x 0 mA ... 20 mA / 2x 4 mA ... 20 mA
Load	≤ 250 Ω (at 20 mA)
Supply voltage	19.2 V DC ... 30 V DC
Current consumption	< 30 mA (at 24 V DC incl. load)
Test voltage	1.5 kV (50 Hz, 1 min.)
Transmission error	≤ 0.2 % (of final value)
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C

Connection type	Type	Order No.	Pcs. / Pkt.
Screw connection	MINI MCR-SL-UI-2I-NC	2864176	1
Spring-cage conn.	MINI MCR-SL-UI-2I-SP-NC	2864189	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Repeater power supply

Repeater power supply for supplying 2 and 3-conductor transmitters.

Common technical data	
Certification	/ Ex:
Input signal	0 mA ... 20 mA / 4 mA ... 20 mA
Input resistance U / I	approx. 50 Ω
Output signal	0 mA ... 20 mA (isolator operation) / 4 mA ... 20 mA
Load U / I	≤ 500 Ω (at I = 20 mA)
Supply voltage	19.2 V DC ... 30 V DC
Test voltage	1.5 kV (50 Hz, 1 min.)
Transmission error	≤ 0.2 % (of final value)
HART function	No
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C

Connection method	Type	Order No.	Pcs. / Pkt.
Screw connection	MINI MCR-SL-RPS-I-I	2864422	1
Spring-cage conn.	MINI MCR-SL-RPS-I-I-SP	2864752	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Single and two-channel passive isolators

Passive isolators, single or two-channel, for electrically isolating current signals without voltage supply

Common technical data	
Certification	/ Ex:
Input signal	0 mA ... 20 mA / 4 mA ... 20 mA
Max. input current	40 mA
Max. input voltage	18 V
Output signal	0 mA ... 20 mA / 4 mA ... 20 mA
Load	< 600 Ω (at I = 20 mA output signal)
Transmission error	≤ 0.1 % (of final value)
Additional error per 100 Ω load	0.03 % (of measured value / 100 Ω load)
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C

Number of channels	Connection method	Type	Order No.	Pcs. / Pkt.
single-channel	Screw connection	MINI MCR-SL-1CP-I-I	2864419	1
single-channel	Spring-cage conn.	MINI MCR-SL-1CP-I-I-SP	2864749	1
two-channel	Screw connection	MINI MCR-SL-2CP-I-I	2864655	1
two-channel	Spring-cage conn.	MINI MCR-SL-2CP-I-I-SP	2864781	1

Configurable temperature transducer for Pt 100

Temperature transducer for Pt 100 temperature sensors, optimized for measuring ranges from -150°C ... +850°C, configurable via DIP switches, with screw connection, not preconfigured

Common technical data	
Certification	/ Ex:
Input signal	Pt 100 (IEC 60751/EN 60751)
Temperature range	-150 °C ... 850 °C (configurable)
Measuring range span	min. 50 K
Voltage output signal	0 V ... 5 V / 1 V ... 5 V / 0 V ... 10 V / 10 V ... 0 V
Current output signal	0 mA ... 20 mA / 4 mA ... 20 mA / 20 mA ... 0 mA / 20 mA ... 4 mA
Load U / I	≥ 10 kΩ / < 500 Ω (at 20 mA)
Supply voltage	19.2 V DC ... 30 V DC
Current consumption	< 21 mA (at 24 V DC)
Test voltage	1.5 kV (50 Hz, 1 min.)
Transmission error	≤ 0,2 %
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm

Ambient temperature (operation)	Connection method	Type	Order No.	Pcs. / Pkt.
-20 °C ... 65 °C	Screw connection	MINI MCR-SL-PT100-UI-NC	2864273	1
-20 °C ... 65 °C	Spring-cage conn.	MINI MCR-SL-PT100-UI-SP-NC	2864286	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Configurable temperature transducer for Pt 100

Temperature transducer for Pt 100 temperature sensors, optimized for measuring ranges from -50°C ... +200°C, configurable via DIP switches

Common technical data	
Certification	/ Ex:
Input signal	Pt 100 (IEC 60751/EN 60751)
Temperature range	-50 °C ... 200 °C (configurable)
Measuring range span	min. 50 K
Voltage output signal	0 V ... 5 V / 1 V ... 5 V / 0 V ... 10 V / 10 V ... 0 V
Current output signal	0 mA ... 20 mA / 4 mA ... 20 mA / 20 mA ... 0 mA / 20 mA ... 4 mA
Load U / I	> 10 kΩ / < 500 Ω (at 20 mA)
Supply voltage	19.2 V DC ... 30 V DC
Current consumption	< 21 mA (at 24 V DC)
Test voltage	1.5 kV (50 Hz, 1 min.)
Transmission error	≤ 0,25 %
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm

Ambient temperature (operation)	Connection method	Type	Order No.	Pcs. / Pkt.
-20 °C ... 65 °C	Screw connection	MINI MCR-SL-PT100-UI-200-NC	2864370	1
-20 °C ... 65 °C	Spring-cage conn.	MINI MCR-SL-PT100-UI-200-SP-NC	2864202	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Configurable temperature transducer for type J and K thermocouples

Temperature transducer for thermocouples, measuring ranges from -150°C ... +1350°C, configurable via DIP switches

Technical data	
Certification	/ Ex:
Input signal	Thermocouples type J, K (IEC 584-1)
Temperature range	Typ J : -150 °C ... 1200 °C (configurable) / Typ K : -150 °C ... 1350 °C
Measuring range span	min. 50 K
Voltage output signal	0 V ... 5 V / 1 V ... 5 V / 0 V ... 10 V / 10 V ... 0 V
Current output signal	0 mA ... 20 mA / 4 mA ... 20 mA / 20 mA ... 0 mA / 20 mA ... 4 mA
Load U / I	≥ 10 kΩ / < 500 Ω (at 20 mA)
Supply voltage	19.2 V DC ... 30 V DC
Current consumption	< 25 mA (at 24 V DC)
Test voltage	1.5 kV (50 Hz, 1 min.)
Transmission error	≤ 0,2 %
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C
Connection method	Screw connection

Type	Order No.	Pcs. / Pkt.
MINI MCR-SL-TC-UI-NC	2864299	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Configurable analog frequency transducer

Frequency transducer for converting standard analog signals into frequency signals or PWM signals, configurable via DIP switches

Common technical data	
Certification	/ Ex:
Input signal	0 V ... 5 V / 1 V ... 5 V / 0 V ... 10 V / 2 V ... 10 V / 0 mA ... 20 mA / 4 mA ... 20 mA / 0 mA ... 10 mA / 2 mA ... 10 mA
Input resistance U / I	approx. 110 kΩ / approx. 50 Ω
Output signal frequency output	0 Hz ... 10 kHz / 0 Hz ... 5 kHz / 0 Hz ... 2.5 kHz / 0 Hz ... 1 kHz / 0 Hz ... 500 Hz / 0 Hz ... 250 Hz / 0 Hz ... 100 Hz / 0 Hz ... 50 Hz
Output signal PWM output	7.8 kHz (10 bit) / 3.9 kHz (10 bit) / 1.9 kHz (12 bit) / 977 Hz (12 bit) / 488 Hz (14 bit) / 244 Hz (14 bit) / 122 Hz (16 bit) / 61 Hz (16 bit)
Load current maximum	20 mA
Maximum switching voltage	30 V
Supply voltage	19.2 V DC ... 30 V DC
Current consumption	< 10 mA (at 24 V DC)
Transmission error	≤ 0.1 % (> 7 kHz ≤ 0.2%)
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C

Connection method	Type	Order No.	Pcs. / Pkt.
Screw connection	MINI MCR-SL-UI-F	2864082	1
Spring-cage conn.	MINI MCR-SL-UI-F-SP	2810243	1

	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Configurable potiposition transducer

Potiposition transducer for converting potentiometer positions into standard analog signals

Common technical data	
Certification	/ Ex:
Potentiometer resistance range	100 Ω ... 100 kΩ
Voltage output signal	0 V ... 5 V / 1 V ... 5 V / 0 V ... 10 V / 10 V ... 0 V
Current output signal	0 mA ... 20 mA / 4 mA ... 20 mA / 20 mA ... 0 mA / 20 mA ... 4 mA
Load U / I	> 10 kΩ / < 500 Ω (20 mA)
Supply voltage	19.2 V DC ... 30 V DC
Current consumption	< 25 mA (at 24 V DC)
Transmission error	< 0,2 %
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm

Ambient temperature (operation)	Connection method	Type	Order No.	Pcs. / Pkt.
-20 °C ... 65 °C	Screw connection	MINI MCR-SL-R-UI	2864095	1
-20 °C ... 65 °C	Spring-cage conn.	MINI MCR-SL-R-UI-SP	2810256	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Threshold value switch, for either standard voltage or standard current signals

Threshold value switch, with adjustable hysteresis and delay time, configurable via DIP switches

Common technical data	
Certification	/ Ex:
Input signal	0 V ... 10 V / 0 mA ... 20 mA
Input resistance U / I	> 100 kΩ / 50 Ω
Switching output	Relay output
Contact type	1 PDT
Contact material	$AgSnO_2$, hard gold-plated
Maximum switching voltage	250 V AC
Limiting continuous current	2 A
Hysteresis (configurable via DIP switches)	(0.1 %; 1 %; 2.5 %; 5 %)
Setting range of the response delay (configurable via DIP switches)	0 s ... 10 s (0 s; 1 s; 2 s; 3 s; 4 s; 6 s; 8 s; 10 s)
Supply voltage	19.2 V DC ... 30 V DC
Current consumption	< 14 mA (at 24 V DC)
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C

Connection method	Type	Order No.	Pcs. / Pkt.
Screw connection	MINI MCR-SL-UI-REL	2864480	1
Spring-cage conn.	MINI MCR-SL-UI-REL-SP	2864493	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Configurable NAMUR switching amplifier

Configurable NAMUR switching amplifier for proximity sensors, floating switch contacts, and switch contacts with resistance circuit. With two configurable N/O contacts on the output side, configurable via DIP switches.

Common technical data	
Certification	/ Ex:
Off-load voltage	8.2 V DC ±10 %
Switching points (in acc. with IEC 60947-5-6)	> 2.1 mA (conductive) / < 1.2 mA (blocking)
Line fault detection	> 6 mA (in the event of short circuit) / < 0.35 mA (in the event of break)
Relay output	2 N/O contacts
Contact material	Hard gold-plated AgNi
Maximum switching voltage	250 V AC
Maximum inrush current	2 A
Supply voltage	19.2 V DC ... 30 V DC
Current consumption	< 25 mA
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C

Connection method	Type	Order No.	Pcs. / Pkt.
Screw connection	MINI MCR-SL-NAM-2RNO	2864105	1
Spring-cage conn.	MINI MCR-SL-NAM-2RNO-SP	2810269	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Power terminal block

Power terminal block for supplying up to 80 MINI Analog modules via the DIN rail connector, redundant supply possible, maximum current consumption up to 2 A

Common technical data	
Certification	/ Ex:
Input voltage range	20 V DC ... 30 V DC
Output voltage	(Input voltage - 0.8 V)
Output current	≤ 2 A
Dimensions W / H / D	6.2 mm / 93.1 mm / 102.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C

Connection method	Type	Order No.	Pcs. / Pkt.
Screw connection	MINI MCR-SL-PTB	2864134	1
Spring-cage conn.	MINI MCR-SL-PTB-SP	2864147	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Hinged transparent cover for MINI MCR modules

MINI MCR modules with additional marking option using insert strips and a 6.2 mm flat zack marker strip

	Type	Order No.	Pcs. / Pkt.
	MINI MCR DKL	2308111	10

Accessories	Type	Order No.	Pcs. / Pkt.
Label for further marking	MINI MCR-DKL-LABEL	2810272	10

DIN rail power supply, 1~, 24 V DC, 1.5 A, primary-switched

With this particularly flat 95 mm power supply unit, an optional DIN rail connector enables supply of several modules with 24 V DC (per power supply unit 2x ME 17,5 TBUS 1,5/5-ST-3,81 GN, 2709561).

Technical data	
Certification	/ Ex:
Input voltage range	85 V AC ... 264 V AC
Current consumption (nominal load)	0.75 A (120 V AC) / 0.45 A (230 V AC)
Mains buffering (I_N, typ.)	> 35 ms (120 V AC) / > 150 ms (230 V AC)
Nominal output voltage	24 V DC ±1%
Output current	1.5 A (-25 °C ... 60 °C) / 2 A (with POWER BOOST, -25°C ... 40°C permanent)
Efficiency	> 84 % (for 230 V AC and nominal values)
Signaling DC OK	LED, relay contact
Weight / Dimensions W x H x D	0.25 kg / 35 mm x 99 mm x 95 mm
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)

	Type	Order No.	Pcs. / Pkt.
	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1

ME 17,5 T-BUS DIN rail connector, gold-plated contacts

DIN rail connector (TBUS), 5-pos., for bridging the supply voltage, can be snapped onto NS 35/... DIN rails according to EN 60715, with UL approval, two pieces required per system power supply

Technical data	
Certification	
Dimensions W / H / D	3.5 mm

	Type	Order No.	Pcs. / Pkt.
	ME 17,5 TBUS 1,5/ 5-ST-3,81 GN	2709561	10

MINI Analog system adapter

Eight MINI analog signal converters with screw connection technology particularly can be connected to a control system using a system adapter and system cabling with a minimum of wiring and very low error risk.

Certification	/ Ex:
Connection to the signal level	Flat-ribbon cable connector in acc. with IEC 60603-13
Insertion/withdrawal cycles	FLK 16: ≥ 200 / Adapter: 10
Contact resistance	< 10 mΩ
Current carrying capacity	≤ 1 A
Test voltage	500 V (50 Hz, 1 min. from channel to channel)
Ambient temperature (operation)	-20 °C ... 60 °C
Vibration resistance	≤ 0.7 g
Dimensions W / H / D	50.4 mm / 46.2 mm / 45.5 mm

	Type	Order No.	Pcs. / Pkt.
	MINI MCR-SL-V8-FLK 16-A	2811268	1

Universal signal conditioners with safety

MACX Analog - safe and high-performance signal conditioners. This product range enables you to safely isolate, adapt, filter, and amplify all the signals of your system. All modules are SIL-certified and are also available for the Ex area.

3-way signal conditioner, analog IN, analog OUT

Signal conditioner with safe electrical isolation. DIP switches on the front, over 1600 signal conversions can be set. Standard configuration (IN 0 ... 10 V/OUT 0 ... 20 mA), SIL

Common technical data	
Certification	Functional Safety / Ex:
Input signal	0 V ... 10 V (please indicate if different setting when ordering)
Input resistance U / I	approx. 1 MΩ (± 1 V DC ... ± 100 V DC) / approx. 10 Ω (± 10 mA DC ... ± 100 mA DC)
Output signal	0 mA ... 20 mA (please indicate if different setting when ordering)
Load U / I	≥ 1 kΩ (10 V) / ≤ 600 Ω (20 mA; active)
Supply voltage	12 V DC ... 24 V DC
Test voltage	2.5 kV (50 Hz, 1 min.)
Transmission error	≤ 0.1 % (of final value)
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 70 °C

Connection method	Type	Order No.	Pcs. / Pkt.
Screw connection	MACX MCR-UI-UI	2811284	1
Spring-cage conn.	MACX MCR-UI-UI-SP	2811572	1
Screw connection	MACX MCR-UI-UI-NC	2811446	1
Spring-cage conn.	MACX MCR-UI-UI-SP-NC	2811556	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10

Repeater power supply and input signal conditioner

Repeater power supply and input signal conditioner for the operation of intrinsically safe (Ex-i) 2-wire measuring transducers, 4-wire measuring transducers, and mA current sources installed in Ex areas. Safe 3-way electrical isolation. HART transparent.

Common technical data	
Certification	Functional Safety / Ex:
Functional safety (SIL)	SIL 2 according to EN 61508
Supply voltage range	19.2 V DC ... 30 V DC
Transmission error, maximum	< 0.1 % (of final value)
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Connection method	Screw connection

Transmitter supply voltage	Load	Type	Order No.	Pcs. / Pkt.
> 16 V (at 20 mA)	< 600 Ω	MACX MCR-SL-RPSSI-I	2865955	1
> 21.5 V (at 20 mA)	< 450 Ω (at 20 mA)	MACX MCR-SL-RPSSI-2I	2924825	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

Output signal conditioner

Output signal conditioner for controlling intrinsically safe (Ex-i) I/P converters, control valves, and indicators installed in Ex areas. Safe 3-way electrical isolation. HART transparent.

Technical data	
Certification	Functional Safety / Ex:
Functional safety (SIL)	SIL 2 according to EN 61508
Input voltage	5.4 V (at 20 mA)
Load	< 800 Ω (at 20 mA)
Supply voltage range	19.2 V DC ... 30 V DC
Transmission error, maximum	< 0.1 % (of final value)
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Connection method	Screw connection

	Type	Order No.	Pcs. / Pkt.
	MACX MCR-SL-IDSI-I	2865971	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

Temperature transducer

Programmable temperature transducer for intrinsically safe operation of resistance thermometers (RTD) or thermocouplers (TC) installed in the Ex area. Safe 3-way electrical isolation.

The IFS-CONF configuration software can be downloaded from the Internet (phoenixcontact.com).

Common technical data	
Certification	Ex:
Functional safety (SIL)	SIL 2 according to EN 61508
Output signal	0 mA ... 20 mA / 4 mA ... 20 mA
Supply voltage range	19.2 V DC ... 30 V DC
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Connection method	Screw connection

Resistance thermometers	Resistor	Thermocouple sensors	Voltage	Load	Transmission error, total	Type	Order No.	Pcs. / Pkt.
Pt, Ni, Cu sensors: 2, 3, 4-wire	0 Ω ... 2000 Ω	-	-	≤ 500 Ω	0.05 % x 100 [K] / measuring range span [K] + 0.05 %	MACX MCR-SL-RTD-I-NC	2865078	1
-	-	E, J, K, N as per IEC / EN 60584, L as per DIN 43760	-20 mV ... 70 mV	max. 500 Ω	0.05% x 200 [K]/Measuring range span [K] + 0.05%	MACX MCR-SL-TC-I-NC	2924346	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

NAMUR signal conditioner

NAMUR signal conditioner (1 and 2-channel) for intrinsically safe operation of proximity sensors and mechanical contacts installed in the Ex area. Safe 3-way electrical isolation.

Common technical data	
Certification	/ Ex:
Input signal	NAMUR proximity sensors (EN 60947-5-6)
Off-load voltage	8 V DC ±10 %
Supply voltage range	19.2 V DC ... 30 V DC
Number of channels	1
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Connection type	Screw connection

Functional safety (SIL)	Switching output	Contact type	Max. switching voltage	Max. switching capacity	Max. switching frequency	Type	Order No.	Pcs. / Pkt.
-	Relay output	1 PDT	250 V AC (2 A)	500 VA	20 Hz (without load)	MACX MCR-SL-NAM-R	2865997	1
-	Relay output	2 N/O contacts	250 V AC (2 A)	500 VA	20 Hz (without load)	MACX MCR-SL-NAM-2RO	2865010	1
SIL 2 according to EN 61508	2 transistor outputs, passive	-	30 V DC (per output)	-	5 kHz	MACX MCR-SL-NAM-2T	2865023	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

Universal temperature transducer with three limit value relays

Universal temperature transducer for thermocouple sensors, resistance thermometers in 2, 3 or 4-wire technology, resistance-type sensors, potentiometers, and mV sources with freely configurable properties via software or via the IFS-OP-UNIT operating and display unit, safe electrical isolation, wide-range power supply (24 V ... 230 V AC/DC), with three limit value relays, SIL

The IFS-CONF configuration software can be downloaded from the Internet (phoenixcontact.com).

Common technical data	
Certification	Functional Safety / Ex:
Input resistance thermometers	Pt, Ni, Cu sensors: 2, 3, 4-wire
Input thermocouple sensors	B, E, J, K, N, R, S, T, L, U, CA, DA, A1G, A2G, A3G, MG, LG
Input resistance-type sensors	0 Ω ... 50 kΩ
Input potentiometer	0 Ω ... 50 kΩ
Input voltage sensor	-1000 mV ... 1000 mV
Load U / I	≥ 10 kΩ / ≤ 600 Ω (at 20 mA)
Switching output	Relay output
Contact type	3 PDTs
Contact material	$AgSnO_2$, hard gold-plated
Maximum switching voltage	250 V AC (250 V DC)
Max. switching current	2 A (250 V AC) 2 A (28 V DC)
Supply voltage	24 V ... 230 V AC/DC
Maximum transmission error	0.1 % (e.g. for Pt 100, 300 K span, 4 ... 20 mA)
Dimensions W / H / D	35 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C

Connection method	Type	Order No.	Pcs. / Pkt.
Screw connection	MACX MCR-T-UIREL-UP	2811378	1
Spring-cage conn.	MACX MCR-T-UIREL-UP-SP	2811828	1
Screw connection	MACX MCR-T-UIREL-UP-C	2811514	1
Spring-cage conn.	MACX MCR-T-UIREL-UP-SP-C	2811831	1

Accessories	Type	Order No.	Pcs. / Pkt.
Operating and display unit, for easy configuration without software	IFS-OP-UNIT	2811899	1
Cradle unit, for snapping the operating and display unit onto the DIN rail	IFS-OP-CRADLE	2811886	1
Programming adapter with USB interface, for programming using the IFS-CONF software	IFS-USB-PROG-ADAPTER	2811271	1

Standard signal conditioners

MACX Analog Ex - these are the single-channel and two-channel signal isolators for intrinsically safe circuits in the Ex area. They safeguard and boost the quality of analog signals by ensuring accurate conversion, isolation, filtering, and amplification.

Repeater power supply and input signal conditioners

Repeater power supply and input signal conditioners for the operation of intrinsically safe (Ex-i) 2-wire measuring transducers, 4-wire measuring transducers, and mA current sources installed in Ex areas. Safe 3-way electrical isolation. HART transparent.

Common technical data	
Transmitter supply voltage	> 16 V (at 20 mA)
Supply voltage range	19.2 V DC ... 30 V DC
Transmission error, maximum	< 0.1 % (of final value)
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Connection method	Screw connection

Certification	Functional safety (SIL)	Input signal	Output signal	Load	Type	Order No.	Pcs. / Pkt.
/ Ex:	SIL 2 according to EN 61508	0 mA ... 20 mA / 4 mA ... 20 mA	0 mA ... 20 mA (active) / 4 mA ... 20 mA (active) / 0 mA ... 20 mA (14 ... 26 V ext. source voltage) / 4 mA ... 20 mA (14 ... 26 V ext. source voltage)	< 600 Ω	MACX MCR-EX-SL-RPSSI-I	2865340	1
Functional Safety / Ex:	SIL 3	4 mA ... 20 mA	4 mA ... 20 mA (active)	≤ 450 Ω (20 mA)	MACX MCR-EX-SL-RPSS-2I-2I	2865382	1
Functional Safety / Ex:	SIL 2 according to EN 61508	4 mA ... 20 mA	4 mA ... 20 mA (active)	< 450 Ω (at 20 mA)	MACX MCR-EX-SL-RPSSI-2I	2865366	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

Output signal conditioner

Output signal conditioner for controlling intrinsically safe (Ex-i) I/P converters, control valves, and indicators installed in Ex areas. Safe 3-way electrical isolation. HART transparent.

Technical data	
Certification	/ Ex:
Functional safety (SIL)	SIL 2 according to EN 61508
Input signal	0 mA ... 20 mA / 4 mA ... 20 mA
Input voltage	5.4 V (at 20 mA)
Output signal	0 mA ... 20 mA / 4 mA ... 20 mA
Load	< 800 Ω (at 20 mA)
Supply voltage range	19.2 V DC ... 30 V DC
Transmission error, maximum	< 0.1 % (of final value)
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Connection method	Screw connection

Type	Order No.	Pcs. / Pkt.
MACX MCR-EX-SL-IDSI-I	2865405	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

Temperature transducers

Programmable temperature transducers for the intrinsically safe operation of resistance thermometers (RTD) installed in the Ex area. Safe 3-way electrical isolation.

Technical data	
Certification	/ Ex:
Functional safety (SIL)	SIL 2 TÜV Rheinland 968/EZ374.00/09
Resistance thermometers	Pt, Ni, Cu sensors: 2, 3, 4-wire
Resistor	0 Ω ... 2000 Ω
Output signal	0 mA ... 20 mA / 4 mA ... 20 mA
Load	max. 500 Ω
Supply voltage range	19.2 V DC ... 30 V DC
Transmission error, total	0.05 % x 100 [K] / measuring range span [K] + 0.05 %
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Connection method	Screw connection

	Type	Order No.	Pcs. / Pkt.
	MACX MCR-EX-SL-RTD-I-NC	2865573	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

Temperature transducers

Programmable temperature transducers for the intrinsically safe operation of thermocouples (TC) installed in the Ex area. Safe 3-way electrical isolation.

Technical data	
Certification	/ Ex:
Functional safety (SIL)	SIL 2 TÜV Rheinland 968/EZ374.00/09
Thermocouple sensors	E, J, K, N as per IEC / EN 60584, L as per DIN 43760
Voltage	-20 mV ... 70 mV
Output signal	0 mA ... 20 mA / 4 mA ... 20 mA
Load	max. 500 Ω
Supply voltage range	19.2 V DC ... 30 V DC
Transmission error, total	0.05% x 200 [K]/Measuring range span [K] + 0.05%
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Connection method	Screw connection

	Type	Order No.	Pcs. / Pkt.
	MACX MCR-EX-SL-TC-I-NC	2865586	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

Temperature transducers

Programmable temperature transducers for intrinsically safe operation in the Ex area. Safe 3-way electrical isolation.

Technical data	
Certification	Functional Safety / Ex:
Functional safety (SIL)	SIL 2
Resistance thermometers	Pt, Ni, Cu sensors: 2, 3, 4-wire
Resistor	0 Ω ... 50 kΩ
Thermocouple sensors	B, E, J, K, N, R, S, T, L, U, CA, DA, A1G, A2G, A3G, MG, LG
Voltage	-1000 mV ... 1000 mV
Output signal	4 mA ... 20 mA (in the case of SIL; further free configuration without SIL)
Load	≤ 600 Ω (20 mA)
Supply voltage range	24 V ... 230 V AC/DC (-20%/+10%, 50/60 Hz)
Dimensions W / H / D	35 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 65 °C
Connection method	Screw connection

	Type	Order No.	Pcs. / Pkt.
	MACX MCR-EX-T-UIREL-UP	2865751	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

NAMUR signal conditioners

NAMUR signal conditioners (1 and 2-channel) for intrinsically safe operation of proximity sensors and mechanical contacts installed in the Ex area. Safe 3-way electrical isolation.

Common technical data	
Input signal	NAMUR proximity sensors (EN 60947-5-6)
Off-load voltage	8 V DC ±10 %
Supply voltage range	19.2 V DC ... 30 V DC
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Connection type	Screw connection

Certification	Functional safety (SIL)	Switching output	Contact type	Max. switching voltage	Max. switching capacity	Max. switching frequency	Number of channels	Type	Order No.	Pcs. / Pkt.
cULus / Ex: cULus	-	Relay output	1 PDT	250 V AC (2 A)	500 VA	20 Hz (without load)	1	MACX MCR-EX-SL-NAM-R	2865434	1
cULus / Ex: cULus	-	Relay output	1 N/O contact per channel	250 V AC (2 A)	500 VA	20 Hz (without load)	2	MACX MCR-EX-SL-2NAM-RO	2865476	1
cULus / Ex: cULus	SIL 2 according to EN 61508	Transistor output, passive	-	30 V DC (per output)	-	5 kHz	2	MACX MCR-EX-SL-2NAM-T	2865489	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

Solenoid driver

Solenoid drivers for controlling intrinsically safe solenoid valves, alarm transmitters and indicators installed in Ex areas. Safe 2-way electrical isolation. Loop-powered.

Common technical data	
Certification	cULus / Ex: cULus
Functional safety (SIL)	SIL 3
Input signal	20 V DC ... 30 V DC
Dimensions W / H / D	12.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Connection type	Screw connection

Off-load voltage at the output	Input current	Output voltage	Current limiting device at the output	Internal resistance	Type	Order No.	Pcs. / Pkt.
24 V DC	10 mA ... 95 mA (75 mA for U_e = 24 V DC)	10.5 V DC (At 48 mA)	48 mA	276 Ω (Internal resistance R_i)	MACX MCR-EX-SL-SD-24-48-LP	2865609	1
21.9 V DC	10 mA ... 95 mA (65 mA for U_e = 24 V DC)	10 V DC (At 40 mA)	40 mA	287 Ω (Internal resistance R_i)	MACX MCR-EX-SL-SD-21-40-LP	2865764	1
21.9 V DC	10 mA ... 105 mA (95 mA for U_e = 24 V DC)	12.9 V DC (At 58 mA)	58 mA	133 Ω (Internal resistance R_i)	MACX MCR-EX-SL-SD-21-60-LP	2865515	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (TBUS)	ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
Power and error message module	MACX MCR-PTB	2865625	1

Current transducers, monitoring and timer relays, and energy meters

You can convert currents into standard analog signals with the MCR-S current transducers.
The monitoring relays of the EMD series monitor currents, voltages, phase parameters, winding temperatures, motor loads and liquid levels and report limit values via the relay output.
The compact ETD timer relays with 6.2 mm narrow housing can be used for various different time control functions.
The EMpro energy meters detect and monitor the electrical characteristics of your machines and systems.

Active current transducers up to 11 A, programmable and configurable

Current transducer, programmable and configurable, for measuring direct, alternating and distorted currents, with relay and transistor output as an option, with screw connection

Note:
These items can be ordered preconfigured. To do this, use the specified order key or order online via www.phoenixcontact.net/products.

MCR-S-1-5-UI-SW-DCI

MCR/PI-CONF-WIN

Common technical data	
Certification	/ Ex:
Input current	0 A ... 11 A (AC/DC)
Operate threshold	2 % (of measuring range nominal value 1/5/10 A)
Frequency range	15 Hz ... 400 Hz
Output signal voltage (normal and inverse)	0 V ... 5 V / 1 V ... 5 V / 0 V ... 10 V / 2 V ... 10 V / -5 V ... 5 V / -10 V ... 10 V
Output signal current (normal and inverse)	0 mA ... 20 mA / 4 mA ... 20 mA
Step response	330 ms (with AC) 40 ms (with DC)
Load U / I	> 10 kΩ / < 500 Ω
Supply voltage	20 V DC ... 30 V DC
Rated insulation voltage	300 V AC (to ground)
Dimensions W / H / D	22.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C

Switching output	Current consumption	Configurable	Type	Order No.	Pcs. / Pkt.
Relay output Transistor output, pnp	< 50 mA (without load)	Yes, preconfigured	MCR-S-1-5-UI-SW-DCI	2814650	1
Relay output Transistor output, pnp	< 50 mA (without load)	Yes, unconfigured	MCR-S-1-5-UI-SW-DCI-NC	2814731	1
No switching output	< 40 mA (without load)	Yes, preconfigured	MCR-S-1-5-UI-DCI	2814634	1
No switching output	< 40 mA (without load)	Yes, unconfigured	MCR-S-1-5-UI-DCI-NC	2814715	1

Accessories	Type	Order No.	Pcs. / Pkt.
MCR configuration software, CD-ROM with software and manual	MCR/PI-CONF-WIN	2814799	1
Software adapter cable (Stereo jack plug/D-SUB 25-pos.), length 1.2 m	MCR-TTL-RS232-E	2814388	1
Adapter cable, stranded, 9-pos. D-SUB socket to 25-pos. D-SUB plug	PSM-KAD 9 SUB 25/BS	2761295	1

Order key for the current transducers (standard configuration entered as example)

Order No.	Measuring range: Start	Measuring range: End	Output		Threshold value	Suppression time	Switching behavior of relay and transistor	
2814634	0.00	5.00	OUT01					
2814650	0.00	5.00	OUT01		50	3.0	A	O
2814634 ≙ MCR-S-1-5-UI-DCI 2814650 ≙ MCR-S-1-5-UI-SW-DCI	Measuring range start value between 0.00…7.50 A 0.00 ≙ 0.00 A	Measuring range final value between 0.2...11 A 5.00 ≙ 5.00 A	OUT01 ≙ 0...20 mA OUT02 ≙ 4...20 mA OUT03 ≙ 0...10 V OUT04 ≙ 2...10 V OUT05 ≙ 0...5 V OUT06 ≙ 1...5 V OUT07 ≙ 20...0 mA OUT08 ≙ 20...4 mA	OUT09 ≙ 10...0 V OUT10 ≙ 10...2 V OUT11 ≙ 5...0 V OUT12 ≙ 5...1 V OUT13 ≙ -5...+5 V OUT14 ≙ -10...+10 V OUT17 ≙ +10...-10 V OUT18 ≙ +5...-5 V	Switching threshold between 1 ... 110 % 50 ≙ 50 % of set upper measuring range value (here: 2.5 A)	Between 0.1 ... 20 s 3.0 ≙ 3 s	A ≙ Operating current controlled R ≙ Closed-circuit current controlled	O ≙ Overrange U ≙ Underrange

Active current transducers up to 55 A, programmable and configurable

Current transducer, programmable and configurable, for measuring direct, alternating and distorted currents, with relay and transistor output as an option, one-sided with through connection for conductors with a maximum diameter of 10.5 mm, with screw connection on the output side

Note:
These items can be ordered preconfigured. To do this, use the specified order key or order online via www.phoenixcontact.net/products.

MCR-S-10-50-UI-SW-DCI

MCR/PI-CONF-WIN

Common technical data	
Certification	/ Ex:
Input current	0 A ... 55 A (AC/DC)
Operate threshold	0.8 % (of measuring range nominal value 50 A)
Frequency range	15 Hz ... 400 Hz
Output signal voltage (normal and inverse)	0 V ... 5 V / 1 V ... 5 V / 0 V ... 10 V / 2 V ... 10 V / -5 V ... 5 V / -10 V ... 10 V
Output signal current (normal and inverse)	0 mA ... 20 mA / 4 mA ... 20 mA
Step response	330 ms (with AC) 40 ms (with DC)
Load U / I	> 10 kΩ / < 500 Ω
Supply voltage	20 V DC ... 30 V DC
Rated insulation voltage	300 V AC (to ground)
Dimensions W / H / D	22.5 mm / 99 mm / 114.5 mm
Ambient temperature (operation)	-20 °C ... 60 °C

Switching output	Current consumption	Configurable	Type	Order No.	Pcs. / Pkt.
Relay output Transistor output, pnp	< 50 mA (without load)	Yes, preconfigured	MCR-S-10-50-UI-SW-DCI	2814663	1
Relay output Transistor output, pnp	< 50 mA (without load)	Yes, unconfigured	MCR-S10-50-UI-SW-DCI-NC	2814744	1
No switching output	< 40 mA (without load)	Yes, preconfigured	MCR-S-10-50-UI-DCI	2814647	1
No switching output	< 40 mA (without load)	Yes, unconfigured	MCR-S10-50-UI-DCI-NC	2814728	1

Accessories	Type	Order No.	Pcs. / Pkt.
MCR configuration software, CD-ROM with software and manual	MCR/PI-CONF-WIN	2814799	1
Software adapter cable (Stereo jack plug/D-SUB 25-pos.), length 1.2 m	MCR-TTL-RS232-E	2814388	1
Adapter cable, flexible, 9-pos. D-SUB socket to 25-pos. D-SUB plug	PSM-KAD 9 SUB 25/BS	2761295	1

Order key for the current transducers (standard configuration entered as example)

Order No.	Measuring range: Start	Measuring range: End	Output		Threshold value	Suppression time	Switching behavior of relay and transistor	
2814647	0,0	50,0	OUT01					
2814663	0,0	50,0	OUT01		50	3,0	A	O
2814647 ≙ MCR-S-10-50-UI-DCI 2814663 ≙ MCR-S-10-50-UI-SW-DCI	Measuring range start value between 0.0…37.5 A 0.0 ≙ 0.0 A	Measuring range final value between 9.5...55 A 50.0 ≙ 50.0 A	OUT01 ≙ 0...20 mA OUT02 ≙ 4...20 mA OUT03 ≙ 0...10 V OUT04 ≙ 2...10 V OUT05 ≙ 0...5 V OUT06 ≙ 1...5 V OUT07 ≙ 20...0 mA OUT08 ≙ 20...4 mA	OUT09 ≙ 10...0 V OUT10 ≙ 10...2 V OUT11 ≙ 5...0 V OUT12 ≙ 5...1 V OUT13 ≙ -5...+5 V OUT14 ≙ -10...+10 V OUT17 ≙ +10...-10 V OUT18 ≙ +5...-5 V	Switching threshold between 1 ... 110 % 50 ≙ 50 % of set upper measuring range value (here: 25 A)	Between 0.1 ... 20 s 3.0 ≙ 3 s	A ≙ Operating current controlled R ≙ Closed-circuit current controlled	O ≙ Overrange U ≙ Underrange

Three-phase voltage monitoring, with wide-range power supply

Electronic monitoring relay, for linked alternating voltages in 3-phase networks with adjustable threshold value, hysteresis and response delay.

Common technical data	
Certification	
Functions	Undervoltage, window, asymmetry, phase sequence, phase failure
Setting range min. (from input signal)	-30 % ... 20 % (of U_N)
Setting range max. (from input signal)	-20 % ... 30 % (of U_N)
Setting range for response delay	0.1 s ... 10 s
Basic accuracy	± 5 % (of scale end value)
Setting accuracy	≤ 5 % (of scale end value)
Contact type	2 floating PDT contacts
Supply voltage	24 V AC ... 240 V AC -15 % ... +10 % 24 V DC ... 240 V DC -20 % ... +25 %
Recovery time	500 ms
Degree of protection	IP40 (housing) / IP20 (connection terminal blocks)
Ambient temperature (operation)	-25 °C ... 55 °C
Connection method	Screw connection
Dimensions W / H / D	22.5 mm / 90 mm / 113 mm

Input ranges	Type	Order No.	Pcs. / Pkt.
(3 N ~ 400/230 V)	EMD-FL-3V-400	2866064	1
(3 N ~ 230/132 V)	EMD-FL-3V-230	2885773	1

Phase monitoring

Monitoring relay for monitoring phase sequence, phase failure and asymmetry, 342…477 V AC, supply from measurement supply, 2 PDTs

Technical data	
Certification	
Functions	Phase sequence, phase failure, asymmetry
Input ranges	400 V (3 N ~ 400/230 V)
Setting range for response delay	≤ 350 ms (fixed setting)
Contact type	2 floating PDT contacts
Supply voltage	(From the measured voltage)
Recovery time	< 100 ms
Degree of protection	IP40 (housing) / IP20 (connection terminal blocks)
Ambient temperature (operation)	-25 °C ... 55 °C
Connection method	Screw connection
Dimensions W / H / D	22.5 mm / 90 mm / 113 mm

Type	Order No.	Pcs. / Pkt.
EMD-SL-PH-400	2866077	1

Compact timer relay with switch-on delay (voltage controlled)

ETD-BL-1T-... compact timer relays with a design width of just 6.2 mm save up to 70% space in the control cabinet compared to conventional timer relays.

ETD-BL-1T-ON- 10S

ETD-BL-1T-ON- 10S-SP

Common technical data	
Certification	/ Ex:
Functions	ON: With switch-on delay
Control pulse length	min. 50 ms
Contact type	1 floating PDT
Switching capacity	1500 VA (6 A / 250 V AC)
Mechanical service life	Approx. 2 x 10^7 cycles
Supply voltage	24 V DC (19.2 V DC ...30 V DC)
Nominal current typ.	15 mA (Relay ON) 7 mA (Relay OFF)
Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 65 °C
Dimensions W / H / D	6.2 mm / 80 mm / 86 mm

Connection method	Connection cross section/AWG	Time ranges	Type	Order No.	Pcs. / Pkt.
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	0.1 s ... 10 s	ETD-BL-1T-ON- 10S	2917379	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	3 s ... 300 s	ETD-BL-1T-ON-300S	2917382	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	0.3 min ... 30 min	ETD-BL-1T-ON- 30MIN	2917395	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	3 min ... 300 min	ETD-BL-1T-ON-300MIN	2917405	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	0.1 s ... 10 s	ETD-BL-1T-ON- 10S-SP	2917531	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	3 s ... 300 s	ETD-BL-1T-ON-300S-SP	2917544	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	0.3 min ... 30 min	ETD-BL-1T-ON- 30MIN-SP	2917557	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	3 min ... 300 min	ETD-BL-1T-ON-300MIN-SP	2917560	1

Compact timer relay with switch-on delay (with control contact)

ETD-BL-1T-... compact timer relays with a design width of just 6.2 mm save up to 70% space in the control cabinet compared to conventional timer relays.

ETD-BL-1T-ON-CC- 10S

ETD-BL-1T-ON-CC- 10S-SP

Common technical data	
Certification	/ Ex:
Functions	ON-CC: With switch-on delay with control contact
Control pulse length	min. 50 ms
Contact type	1 floating PDT
Switching capacity	1500 VA (6 A / 250 V AC)
Mechanical service life	Approx. 2 x 10^7 cycles
Supply voltage	24 V DC (19.2 V DC ...30 V DC)
Nominal current typ.	15 mA (Relay ON) 7 mA (Relay OFF)
Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 65 °C
Dimensions W / H / D	6.2 mm / 80 mm / 86 mm

Connection method	Connection cross section/AWG	Time ranges	Type	Order No.	Pcs. / Pkt.
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	0.1 s ... 10 s	ETD-BL-1T-ON-CC- 10S	2917418	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	3 s ... 300 s	ETD-BL-1T-ON-CC-300S	2917421	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	0.3 min ... 30 min	ETD-BL-1T-ON-CC- 30MIN	2917434	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	3 min ... 300 min	ETD-BL-1T-ON-CC-300MIN	2917447	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	0.1 s ... 10 s	ETD-BL-1T-ON-CC- 10S-SP	2917573	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	0.3 s ... 300 s	ETD-BL-1T-ON-CC-300S-SP	2917586	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	0.3 min ... 30 min	ETD-BL-1T-ON-CC- 30MIN-SP	2917599	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	3 min ... 300 min	ETD-BL-1T-ON-CC-300MIN-SP	2917609	1

Compact timer relay with switch-off delay (with control contact)

ETD-BL-1T-... compact timer relays with a design width of just 6.2 mm save up to 70% space in the control cabinet compared to conventional timer relays.

ETD-BL-1T-OFF-CC- 10S

ETD-BL-1T-OFF-CC- 10S-SP

Common technical data	
Certification	/ Ex:
Functions	OFF-CC: Off delay with control contact
Control pulse length	min. 50 ms
Contact type	1 floating PDT
Switching capacity	1500 VA (6 A / 250 V AC)
Mechanical service life	Approx. 2 x 10^7 cycles
Supply voltage	24 V DC (19.2 V DC ...30 V DC)
Nominal current typ.	15 mA (Relay ON) 7 mA (Relay OFF)
Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 65 °C
Dimensions W / H / D	6.2 mm / 80 mm / 86 mm

Connection method	Connection cross section/AWG	Time ranges	Type	Order No.	Pcs. / Pkt.
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	0.1 s ... 10 s	ETD-BL-1T-OFF-CC- 10S	2917450	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	3 s ... 300 s	ETD-BL-1T-OFF-CC-300S	2917463	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	0.3 min ... 30 min	ETD-BL-1T-OFF-CC- 30MIN	2917467	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	3 min ... 300 min	ETD-BL-1T-OFF-CC-300MIN	2917489	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	0.1 s ... 10 s	ETD-BL-1T-OFF-CC- 10S-SP	2917612	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	3 s ... 300 s	ETD-BL-1T-OFF-CC-300S-SP	2917625	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	0.3 min ... 30 min	ETD-BL-1T-OFF-CC- 30MIN-SP	2917638	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	3 min ... 300 min	ETD-BL-1T-OFF-CC-300MIN-SP	2917641	1

Compact timer relay with flasher function (beginning with pulse)

ETD-BL-1T-... compact timer relays with a design width of just 6.2 mm save up to 70% space in the control cabinet compared to conventional timer relays.

ETD-BL-1T-F- 10S

ETD-BL-1T-F- 10S-SP

Common technical data	
Certification	/ Ex:
Functions	F: Flashing beginning with pulse
Control pulse length	min. 50 ms
Contact type	1 floating PDT
Switching capacity	1500 VA (6 A / 250 V AC)
Mechanical service life	Approx. 2 x 10^7 cycles
Supply voltage	24 V DC (19.2 V DC ...30 V DC)
Nominal current typ.	15 mA (Relay ON) 7 mA (Relay OFF)
Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 65 °C
Dimensions W / H / D	6.2 mm / 80 mm / 86 mm

Connection method	Connection cross section/AWG	Time ranges	Type	Order No.	Pcs. / Pkt.
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	0.1 s ... 10 s	ETD-BL-1T-F- 10S	2917492	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	3 s ... 300 s	ETD-BL-1T-F-300S	2917502	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	0.3 min ... 30 min	ETD-BL-1T-F- 30MIN	2917515	1
Screw connection	0.14 mm² ... 2.5 mm² / 30 - 12	3 min ... 300 min	ETD-BL-1T-F-300MIN	2917528	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	0.1 s ... 10 s	ETD-BL-1T-F- 10S-SP	2917654	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	3 s ... 300 s	ETD-BL-1T-F-300S-SP	2917667	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	0.3 min ... 30 min	ETD-BL-1T-F- 30MIN-SP	2917670	1
Spring-cage connection	0.14 mm² ... 2.5 mm² / 26 - 12	3 min ... 300 min	ETD-BL-1T-F-300MIN-SP	2917683	1

Compact EEM-MA energy meter for DIN rail mounting

Two-tariff measurement via pulse input, pulse output

Common technical data	
Measuring principle	True r.m.s. value measurement
Voltage measurement accuracy	0.2 %
Current measurement accuracy	0.2 %
Power measurement accuracy	0.5 %
Real energy (IEC 62053-22)	Class 0.5S
Reactive energy (IEC 62053-23)	Class 2
Ambient temperature (operation)	-10 °C ... 55 °C (14 °F to 131 °F)

Input voltage range	Input current range (via external converter)	Serial port	Supply voltage	Dimensions W / H / D	Type	Order No.	Pcs. / Pkt.
50 V AC ... 519 V AC (Phase/Phase) 28 V AC ... 300 V AC (Phase/neutral conductor)	9999 A (primary) 5 A (secondary)	Modbus RTU/ JBUS RS-485	110 V AC ... 277 V AC -10% ... +15%	72 mm / 90 mm / 64 mm	EEM-MA250	2901363	1
50 V AC ... 500 V AC (Phase/Phase) 28 V AC ... 289 V AC (Phase/neutral conductor)	9999 A (primary) 5 A (secondary)	Via extension module	110 V AC ... 400 V AC ± 10%	96 mm / 96 mm / 82 mm	EEM-MA400	2901364	1
18 V AC ... 700 V AC (Phase/Phase) 11 V AC ... 404 V AC (Phase/neutral conductor)	9999 A (primary) (1 A and 5 A, secondary)	Via extension module	110 V AC ... 400 V AC ± 10%	96 mm / 96 mm / 82 mm	EEM-MA600	2901366	1

RIFLINE complete relay modules

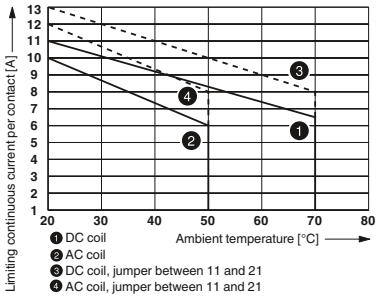
RIFLINE complete is an inexpensive relay system with various accessories. It consists of DIN rail bases, electromechanical or solid-state relays, plug-in input/interference suppression modules, marking material, and bridging material. The range of accessories is rounded off with a timer module. This can be used to transform a basic relay into a timer relay with three different functions.

RIF-0 relay module with push-in connection, 1 N/O contact, power contact

Common technical data	
Connection method	Push-in connection
Connection cross section/AWG	0.14 mm² ... 1.5 mm² / 26 - 16
Contact type	1 N/O contact
Contact material	AgSnO
Max. switching voltage	250 V AC/DC
Limiting continuous current	6 A
Ambient temperature (operation)	-40 °C ... 60 °C
Mechanical service life	Approx. 2 x 10^7 cycles
Dimensions W / H / D	6.2 mm / 93 mm / 66 mm

Input voltage U_N	Typ. input current at U_N	Type	Order No.	Pcs. / Pkt.
12 V DC	16 mA	RIF-0-RPT-12DC/ 1	2903362	10
24 V DC	9 mA	RIF-0-RPT-24DC/ 1	2903361	10

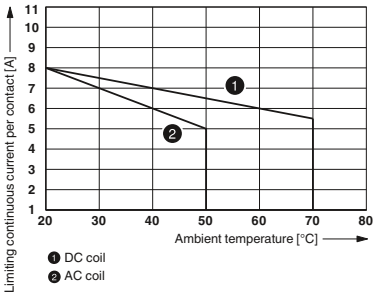
RIF-1 relay module with push-in connection, 1 PDT, power contact



Common technical data	
Connection method	Push-in connection
Connection cross section/AWG	0.14 mm² ... 1.5 mm² / 26 - 16
Contact type	1 PDT
Contact material	AgNi
Max. switching voltage	250 V AC/DC
Dimensions W / H / D	16 mm / 96 mm / 75 mm

Input voltage U_N	Typ. input current at U_N	Max. inrush current	Limiting continuous current	Ambient temperature (operation)	Mechanical service life	Type	Order No.	Pcs. / Pkt.
24 V DC	18 mA	50 A (20 ms, N/O contact)	11 A (refer to the diagram)	-40 °C ... 70 °C	Approx. 3 x 10^7 cycles	RIF-1-RPT-LDP-24DC/1X21	2903342	10
24 V AC	33 mA	25 A (20 ms, N/O contact)	10 A (refer to the diagram)	-40 °C ... 50 °C	Approx. 10^7 cycles	RIF-1-RPT-LV-24AC/1X21	2903341	10
120 V AC	8 mA	25 A (20 ms, N/O contact)	10 A (refer to the diagram)	-40 °C ... 50 °C	Approx. 10^7 cycles	RIF-1-RPT-LV-120AC/1X21	2903340	10
230 V AC	6 mA	25 A (20 ms, N/O contact)	10 A (refer to the diagram)	-40 °C ... 50 °C	Approx. 10^7 cycles	RIF-1-RPT-LV-230AC/1X21	2903339	10

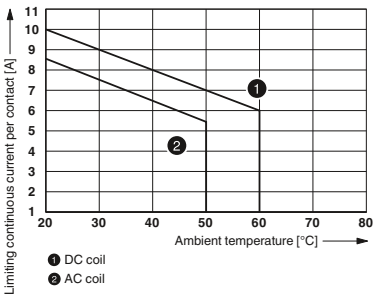
RIF-1 relay module with push-in connection, 2 PDTs, power contact



Common technical data	
Connection method	Push-in connection
Connection cross section/AWG	0.14 mm² ... 1.5 mm² / 26 - 16
Contact type	2 PDTs
Contact material	AgNi
Max. switching voltage	250 V AC/DC
Limiting continuous current	8 A (refer to the diagram)
Dimensions W / H / D	16 mm / 96 mm / 75 mm

Input voltage U_N	Typ. input current at U_N	Max. inrush current	Ambient temperature (operation)	Mechanical service life	Type	Order No.	Pcs. / Pkt.
24 V DC	18 mA	25 A (20 ms, N/O contact)	-40 °C ... 70 °C	Approx. 3 x 10^7 cycles	RIF-1-RPT-LDP-24DC/2X21	2903334	10
24 V AC	33 mA	12 A (20 ms, N/O contact)	-40 °C ... 50 °C	Approx. 10^7 cycles	RIF-1-RPT-LV-24AC/2X21	2903333	10
120 V AC	8 mA	12 A (20 ms, N/O contact)	-40 °C ... 50 °C	Approx. 10^7 cycles	RIF-1-RPT-LV-120AC/2X21	2903332	10
230 V AC	6 mA	12 A (20 ms, N/O contact)	-40 °C ... 50 °C	Approx. 10^7 cycles	RIF-1-RPT-LV-230AC/2X21	2903331	10

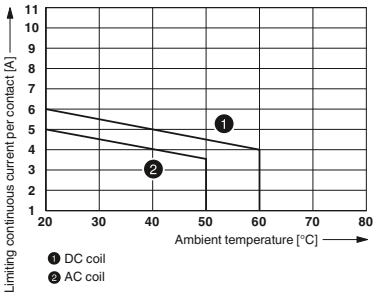
RIF-2 relay module with push-in connection, 2 PDTs, power contact



Common technical data	
Certification	
Connection method	Push-in connection
Connection cross section/AWG	0.14 mm² ... 1.5 mm² / 26 - 16
Contact type	2 PDTs
Contact material	AgNi
Max. switching voltage	250 V AC/DC
Max. inrush current	30 A (20 ms, N/O contact)
Mechanical service life	Approx. 2 x 10^7 cycles
Dimensions W / H / D	31 mm / 96 mm / 75 mm

Input voltage U_N	Typ. input current at U_N	Limiting continuous current	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
24 V DC	41 mA	10 A (refer to the diagram)	-40 °C ... 60 °C	RIF-2-RPT-LDP-24DC/2X21	2903315	10
24 V AC	70 mA	8.5 A (refer to the diagram)	-40 °C ... 50 °C	RIF-2-RPT-LV-24AC/2X21	2903313	10
120 V AC	13 mA	8.5 A (refer to the diagram)	-40 °C ... 50 °C	RIF-2-RPT-LV-120AC/2X21	2903311	10
230 V AC	6.5 mA	8.5 A (refer to the diagram)	-40 °C ... 50 °C	RIF-2-RPT-LV-230AC/2X21	2903310	10

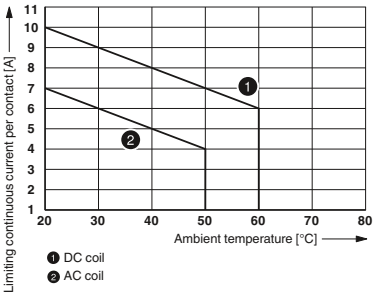
RIF-2 relay module with push-in connection, 4 PDTs, power contact



Common technical data	
Certification	
Connection method	Push-in connection
Connection cross section/AWG	0.14 mm² ... 1.5 mm² / 26 - 16
Contact type	4 PDTs
Contact material	AgNi
Max. switching voltage	250 V AC/DC
Max. inrush current	16 A (20 ms, N/O contact)
Mechanical service life	Approx. 2 x 10^7 cycles
Dimensions W / H / D	31 mm / 96 mm / 75 mm

Input voltage U_N	Typ. input current at U_N	Limiting continuous current	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
24 V DC	41 mA	6 A (refer to the diagram)	-40 °C ... 60 °C	RIF-2-RPT-LDP-24DC/4X21	2903308	10
24 V AC	70 mA	5 A (refer to the diagram)	-40 °C ... 50 °C	RIF-2-RPT-LV-24AC/4X21	2903306	10
120 V AC	13 mA	5 A (refer to the diagram)	-40 °C ... 50 °C	RIF-2-RPT-LV-120AC/4X21	2903305	10
230 V AC	6.5 mA	5 A (refer to the diagram)	-40 °C ... 50 °C	RIF-2-RPT-LV-230AC/4X21	2903304	10

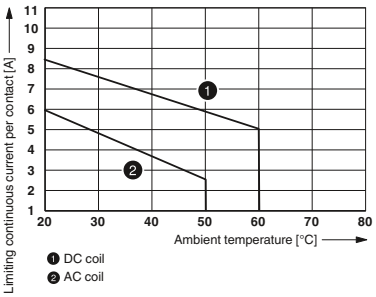
RIF-3 relay module with push-in connection, 2 PDTs, power contact



Common technical data	
Certification	
Connection method	Push-in connection
Connection cross section/AWG	0.14 mm² ... 1.5 mm² / 26 - 16
Contact type	2 PDTs
Contact material	AgNi
Max. switching voltage	250 V AC/DC
Max. inrush current	30 A (20 ms, N/O contact)
Mechanical service life	Approx. 2 x 10^7 cycles
Dimensions W / H / D	40 mm / 103 mm / 90 mm

Input voltage U_N	Typ. input current at U_N	Limiting continuous current	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
24 V DC	60 mA	10 A (refer to the diagram)	-40 °C ... 60 °C	RIF-3-RPT-LDP-24DC/2X21	2903297	5
120 V AC	23 mA	7 A (refer to the diagram)	-40 °C ... 50 °C	RIF-3-RPT-LV-120AC/2X21	2903296	5
230 V AC	13 mA	7 A (refer to the diagram)	-40 °C ... 50 °C	RIF-3-RPT-LV-230AC/2X21	2903295	5

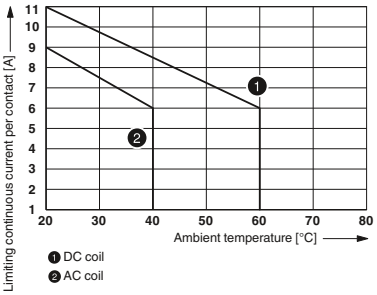
RIF-3 relay module with push-in connection, 3 PDTs, power contact



Common technical data	
Certification	
Connection method	Push-in connection
Connection cross section/AWG	0.14 mm² ... 1.5 mm² / 26 - 16
Contact type	3 PDTs
Contact material	AgNi
Max. switching voltage	250 V AC/DC
Max. inrush current	30 A (20 ms, N/O contact)
Mechanical service life	Approx. 2 x 10^7 cycles
Dimensions W / H / D	40 mm / 103 mm / 90 mm

Input voltage U_N	Typ. input current at U_N	Limiting continuous current	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
24 V DC	60 mA	8.5 A (refer to the diagram)	-40 °C ... 60 °C	RIF-3-RPT-LDP-24DC/3X21	2903294	5
120 V AC	23 mA	6 A (refer to the diagram)	-40 °C ... 50 °C	RIF-3-RPT-LV-120AC/3X21	2903293	5
230 V AC	13 mA	6 A (refer to the diagram)	-40 °C ... 50 °C	RIF-3-RPT-LV-230AC/3X21	2903292	5

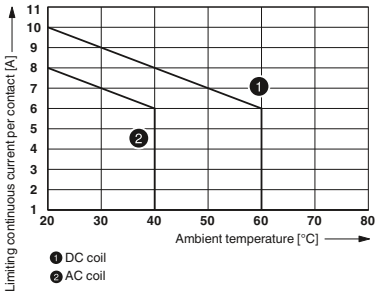
RIF-4 relay module with push-in connection, 2 PDTs, power contact



Common technical data	
Certification	
Connection method	Push-in connection
Contact type	2 PDTs
Contact material	AgNi
Max. switching voltage	440 V AC / 250 V DC
Max. inrush current	50 A (20 ms, N/O contact)
Mechanical service life	Approx. 10^7 cycles
Dimensions W / H / D	43 mm / 111 mm / 90 mm

Input voltage U_N	Typ. input current at U_N	Limiting continuous current	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
24 V DC	56 mA	11 A (refer to the diagram)	-40 °C ... 60 °C	RIF-4-RPT-LDP-24DC/2X21	2903281	5
120 V AC	24 mA	9 A (refer to the diagram)	-40 °C ... 40 °C	RIF-4-RPT-LV-120AC/2X21	2903280	5
230 V AC	14 mA	9 A (refer to the diagram)	-40 °C ... 40 °C	RIF-4-RPT-LV-230AC/2X21	2903279	5

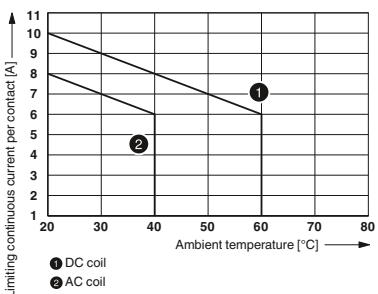
RIF-4 relay module with push-in connection, 3 PDTs, power contact



Common technical data	
Certification	
Connection method	Push-in connection
Contact type	3 PDTs
Contact material	AgNi
Max. switching voltage	440 V AC / 250 V DC
Max. inrush current	50 A (20 ms, N/O contact)
Mechanical service life	Approx. 10^7 cycles
Dimensions W / H / D	43 mm / 111 mm / 90 mm

Input voltage U_N	Typ. input current at U_N	Limiting continuous current	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
24 V DC	56 mA	10 A (refer to the diagram)	-40 °C ... 60 °C	RIF-4-RPT-LDP-24DC/3X21	2903278	5
120 V AC	24 mA	8 A (refer to the diagram)	-40 °C ... 40 °C	RIF-4-RPT-LV-120AC/3X21	2903277	5
230 V AC	14 mA	8 A (refer to the diagram)	-40 °C ... 40 °C	RIF-4-RPT-LV-230AC/3X21	2903276	5

RIF-4 relay module with push-in connection, 3 N/O contacts, power contact



Common technical data	
Certification	
Connection method	Push-in connection
Contact type	3 N/O contacts
Contact material	AgNi
Max. switching voltage	440 V AC / 250 V DC
Max. inrush current	50 A (20 ms, N/O contact)
Mechanical service life	Approx. 10^7 cycles
Dimensions W / H / D	43 mm / 111 mm / 90 mm

Input voltage U_N	Typ. input current at U_N	Limiting continuous current	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
24 V DC	70 mA	10 A (refer to the diagram)	-40 °C ... 60 °C	RIF-4-RPT-LDP-24DC/3X1	2903275	5
120 V AC	24 mA	8 A (refer to the diagram)	-40 °C ... 40 °C	RIF-4-RPT-LV-120AC/3X1	2903274	5
230 V AC	14 mA	8 A (refer to the diagram)	-40 °C ... 40 °C	RIF-4-RPT-LV-230AC/3X1	2903273	5

Jumpers with 6 and 8 mm pitch for RIF-0 to RIF-4

FBS 2-6

FBS 20-6

Pitch	No. of pos.	Color	Max. load current	Type	Order No.	Pcs. / Pkt.
6.20 mm	2	red	32 A	FBS 2-6	3030336	50
6.20 mm	2	blue	32 A	FBS 2-6 BU	3036932	50
6.20 mm	2	gray	32 A	FBS 2-6 GY	3032237	50
6.20 mm	5	red	32 A	FBS 5-6	3030349	50
6.20 mm	10	red	32 A	FBS 10-6	3030271	10
6.20 mm	20	red	32 A	FBS 20-6	3030365	10
6.20 mm	50	red	32 A	FBS 50-6	3032224	10
8.20 mm	2	red	41 A	FBS 2-8	3030284	10
8.20 mm	2	blue	41 A	FBS 2-8 BU	3032567	10
8.20 mm	2	gray	41 A	FBS 2-8 GY 7042	3032541	10

Plug-in input/suppressor modules for RIF-1, RIF-2, RIF-3, and RIF-4

Common technical data	
Certification	

Input voltage U_N	Input voltage range	Input circuit	Type	Order No.	Pcs. / Pkt.
-	12 V DC ... 24 V DC ±20%	Yellow LED, freewheeling diode	RIF-LDP-12-24 DC	2900939	10
-	48 V DC ... 60 V DC ±20%	Yellow LED, freewheeling diode	RIF-LDP-48-60 DC	2900940	10
110 V DC ±20%	-	Yellow LED, freewheeling diode	RIF-LDP-110 DC	2900941	10
-	12 V AC/DC ... 24 V AC/DC ±20%	Yellow LED, varistor	RIF-LV-12-24 UC	2900942	10
-	48 V AC/DC ... 60 V AC/DC ±20%	Yellow LED, varistor	RIF-LV-48-60 UC	2900943	10
110 V DC ±20%	120 V AC ... 230 V AC ±20%	Yellow LED, varistor	RIF-LV-120-230 AC/110 DC	2900944	10
-	12 V AC/DC ... 24 V AC/DC ±20%	Varistor	RIF-V-12-24 UC	2900945	10
-	48 V AC/DC ... 60 V AC/DC ±20%	Varistor	RIF-V-48-60 UC	2900947	10
110 V DC ±20%	120 V AC ... 230 V AC ±20%	Varistor	RIF-V-120-230 UC	2900948	10
-	12 V AC/DC ... 24 V AC/DC ±20%	RC element	RIF-RC-12-24 UC	2900949	10
-	48 V AC/DC ... 60 V AC/DC ±20%	RC element	RIF-RC-48-60 UC	2900950	10
110 V DC ±20%	120 V AC ... 230 V AC ±20%	RC element	RIF-RC-120-230 UC	2900951	10

Plug-in timer relay for RIF-1, RIF-2, RIF-3, and RIF-4

The multifunctional plug-in timer relay transforms a relay module into a timer relay.
Functions: switch-on delay, passing make contact, flasher/pulse generator.
Time ranges: 0.5 s - 10 s, 5 s - 100 s, 0.5 min - 10 min, 5 min - 100 min.

Technical data	
Certification	
Input voltage U_N	24 V DC (AC operation only permitted for RIF-1)
Input voltage range in reference to U_N	0.4 ... 1.2
Input circuit	Yellow LED, varistor
Limiting continuous current	≤ 250 mA (Relay coil current)
Repeat accuracy	1 %
Ambient temperature (operation)	-25 °C ... 50 °C (RIF-1, AC coil, 2 PDTs at 6 A) -25 °C ... 50 °C (RIF-1, DC coil, 2 PDTs at 5 A) -25 °C ... 40 °C (RIF-2, DC coil, 2 PDTs at 8 A) -25 °C ... 40 °C (RIF-2, DC coil, 4 PDTs at 5 A) -25 °C ... 40 °C (RIF-3, DC coil, 3 PDTs at 6.75 A) -25 °C ... 40 °C (RIF-3, DC coil, 2 PDTs at 8 A) -25 °C ... 35 °C (RIF-4, DC coil, 3 PDTs at 8 A) -25 °C ... 25 °C (RIF-4, DC coil, 3 N/O contacts at 8 A)
Rated insulation voltage	50 V DC
Rated insulation voltage	0.4 kV

Type	Order No.	Pcs. / Pkt.
RIF-T3-24UC	2902647	1

Narrow relay modules and solid-state relays

The PLC-INTERFACE relay system acts as the high-performance interface between the controller and system I/O devices. PLC-INTERFACE provides you with a comprehensive range of ultra-slim, plug-in relays and solid-state relays. You will also have access to a complete range of accessories and system cabling.

Coupling relay module with screw connection, 1 PDT, power contact

Note:
For marking material (UC-TM 6 or ZB 6), see "Marking systems, tools, and mounting material".

Common technical data	
Certification	
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Contact type	1 PDT
Contact material	AgSnO
Max. switching voltage	250 V AC/DC
Max. inrush current	(on request)
Limiting continuous current	6 A
Mechanical service life	2 x 10^7 cycles
Dimensions W / H / D	6.2 mm / 80 mm / 94 mm

Input voltage U_N	Typ. input current at U_N	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
12 V DC	15.3 mA	-40 °C ... 60 °C	PLC-RSC- 12DC/21	2966906	10
24 V DC	9 mA	-40 °C ... 60 °C	PLC-RSC- 24DC/21	2966171	10
24 V AC/DC	11 mA (at U_N = 24 V AC)	-40 °C ... 60 °C	PLC-RSC- 24UC/21	2966184	10
48 V DC	9.2 mA	-40 °C ... 60 °C	PLC-RSC- 48DC/21	2966113	10
60 V DC	4.8 mA	-40 °C ... 60 °C	PLC-RSC- 60DC/21	2966139	10
120 V AC (110 V DC)	3.5 mA (at U_N = 120 V AC)	-40 °C ... 55 °C	PLC-RSC-120UC/21	2966197	10
230 V AC (220 V DC)	3.2 mA (at U_N = 230 V AC)	-40 °C ... 55 °C	PLC-RSC-230UC/21	2966207	10

Accessories	Type	Order No.	Pcs. / Pkt.
Partition plate, thickness 2 mm, required at the start and end of a PLC terminal strip, color: black	PLC-ATP BK	2966841	25
Power terminal block, for supply of up to 4 potentials, max. 32 A/250 V AC, color: gray	PLC-ESK GY	2966508	5
Jumper, 500 mm long, can be cut to length, for potential distribution, color: red	FBST 500-PLC RD	2966786	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: blue	FBST 500-PLC BU	2966692	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: gray	FBST 500-PLC GY	2966838	20
Jumper, 2-pos., 6 mm long, for potential distribution, color: red	FBST 6-PLC RD	2966236	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: blue	FBST 6-PLC BU	2966812	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: gray	FBST 6-PLC GY	2966825	50

Coupling relay module for high continuous current with screw connection, 1 PDT, power contact

Note:
For marking material (UC-TM 6 or ZB 6), see "Marking systems, tools, and mounting material".

Common technical data	
Certification	
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Contact type	1 PDT
Contact material	AgNi
Max. switching voltage	250 V AC/DC
Max. inrush current	30 A (300 ms)
Limiting continuous current	10 A
Mechanical service life	3 x 10^7 cycles
Dimensions W / H / D	14 mm / 80 mm / 94 mm

Input voltage U_N	Typ. input current at U_N	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
12 V DC	33 mA	-40 °C ... 60 °C	PLC-RSC- 12DC/21HC	2967617	10
24 V DC	18 mA	-40 °C ... 60 °C	PLC-RSC- 24DC/21HC	2967620	10
24 V AC/DC	17.5 mA	-40 °C ... 60 °C	PLC-RSC- 24UC/21HC	2967633	10
48 V DC	20 mA	-40 °C ... 60 °C	PLC-RSC- 48DC/21HC	2967646	10
60 V DC	10 mA	-40 °C ... 60 °C	PLC-RSC- 60DC/21HC	2967659	10
120 V AC (110 V DC)	4.5 mA	-40 °C ... 60 °C	PLC-RSC-120UC/21HC	2967662	10
230 V AC (220 V DC)	4.5 mA	-40 °C ... 55 °C	PLC-RSC-230UC/21HC	2967675	10

Accessories	Type	Order No.	Pcs. / Pkt.
Partition plate, thickness 2 mm, required at the start and end of a PLC terminal strip, color: black	PLC-ATP BK	2966841	25
Power terminal block, for supply of up to 4 potentials, max. 32 A/250 V AC, color: gray	PLC-ESK GY	2966508	5
Jumper, 500 mm long, can be cut to length, for potential distribution, color: red	FBST 500-PLC RD	2966786	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: blue	FBST 500-PLC BU	2966692	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: gray	FBST 500-PLC GY	2966838	20
Jumper, 2-pos., 6 mm long, for potential distribution, color: red	FBST 6-PLC RD	2966236	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: blue	FBST 6-PLC BU	2966812	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: gray	FBST 6-PLC GY	2966825	50

Coupling relay module with screw connection, 2 PDTs, power contact

Note:
For marking material (UC-TM 6 or ZB 6), see "Marking systems, tools, and mounting material".

Common technical data	
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Contact type	2 PDTs
Contact material	AgNi
Max. switching voltage	250 V AC/DC
Max. inrush current	15 A (300 ms)
Limiting continuous current	6 A
Mechanical service life	3 x 10^7 cycles
Dimensions W / H / D	14 mm / 80 mm / 94 mm

Certification	Input voltage U_N	Typ. input current at U_N	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
	12 V DC	33 mA	-40 °C ... 60 °C	PLC-RSC- 12DC/21-21	2967235	10
	24 V DC	18 mA	-40 °C ... 60 °C	PLC-RSC- 24DC/21-21	2967060	10
	24 V AC/DC	17.5 mA (at U_N = 24 V AC)	-40 °C ... 60 °C	PLC-RSC- 24UC/21-21	2967073	10
	48 V DC	20 mA	-40 °C ... 60 °C	PLC-RSC- 48DC/21-21	2967248	10
	60 V DC	10 mA	-40 °C ... 60 °C	PLC-RSC- 60DC/21-21	2967293	10
	120 V AC (110 V DC)	4.5 mA (at U_N = 120 V AC)	-40 °C ... 60 °C	PLC-RSC-120UC/21-21	2967086	10
	230 V AC (220 V DC)	4.5 mA (at U_N = 230 V AC)	-40 °C ... 55 °C	PLC-RSC-230UC/21-21	2967099	10

Accessories	Type	Order No.	Pcs. / Pkt.
Partition plate, thickness 2 mm, required at the start and end of a PLC terminal strip, color: black	PLC-ATP BK	2966841	25
Power terminal block, for supply of up to 4 potentials, max. 32 A/250 V AC, color: gray	PLC-ESK GY	2966508	5
Jumper, 500 mm long, can be cut to length, for potential distribution, color: red	FBST 500-PLC RD	2966786	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: blue	FBST 500-PLC BU	2966692	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: gray	FBST 500-PLC GY	2966838	20
Jumper, 2-pos., 6 mm long, for potential distribution, color: red	FBST 6-PLC RD	2966236	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: blue	FBST 6-PLC BU	2966812	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: gray	FBST 6-PLC GY	2966825	50

Coupling relay basic terminal block, with integrated filter against interference

For assembly with relays, 1 PDT, multi-layer gold contact. With screw or spring-cage connection.

Note:
For marking material (UC-TM 6 or ZB 6), see "Marking systems, tools, and mounting material".

PLC-BSC-120UC/21/SO46

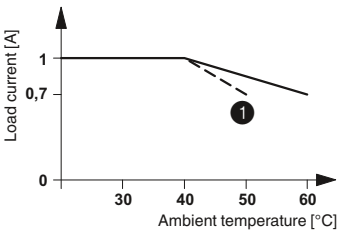
REL-MR- 60DC/21AU

Common technical data	
Certification	
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Contact type	Single contact, 1 PDT
Contact material	AgSnO, hard gold-plated
Max. switching voltage	30 V AC / 36 V DC
Max. inrush current	50 mA
Limiting continuous current	50 mA
Ambient temperature (operation)	-20 °C ... 55 °C
Mechanical service life	2 x 10^7 cycles
Dimensions W / H / D	6.2 mm / 80 mm / 94 mm

Connection method	Input voltage U_N	Typ. input current at U_N	Type	Order No.	Pcs. / Pkt.
Screw connection	120 V AC	7 mA (50 Hz)	PLC-BSC-120UC/21/SO46	2980319	10
Screw connection	230 V AC	8.8 mA (50 Hz)	PLC-BSC-230UC/21/SO46	2980335	10
Push-in connection	120 V AC	7 mA (50 Hz)	PLC-BPT-120UC/21/SO46	2900453	10
Push-in connection	230 V AC	8.8 mA (50 Hz)	PLC-BPT-230UC/21/SO46	2900455	10

Accessories	Type	Order No.	Pcs. / Pkt.
Plug-in miniature relay, with gold contact	REL-MR- 60DC/21AU	2961134	10
Partition plate, thickness 2 mm, required at the start and end of a PLC terminal strip, color: black	PLC-ATP BK	2966841	25
Power terminal block, for supply of up to 4 potentials, max. 32 A/250 V AC, color: gray	PLC-ESK GY	2966508	5
Jumper, 500 mm long, can be cut to length, for potential distribution, color: red	FBST 500-PLC RD	2966786	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: blue	FBST 500-PLC BU	2966692	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: gray	FBST 500-PLC GY	2966838	20
Jumper, 2-pos., 6 mm long, for potential distribution, color: red	FBST 6-PLC RD	2966236	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: blue	FBST 6-PLC BU	2966812	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: gray	FBST 6-PLC GY	2966825	50

Power solid-state relay module with screw connection, 300 V DC / 1 A



❶ For input voltages of 220 V DC and 230 V DC

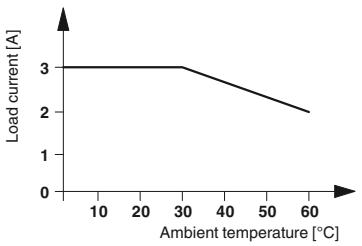
Common technical data	
Certification	
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Limiting continuous current	1 A (see derating curve)
Voltage drop at max. limiting continuous current	< 500 mV
Ambient temperature (operation)	-25 °C ... 60 °C
Dimensions W / H / D	6.2 mm / 80 mm / 86 mm

Input voltage U_N	Input range (reference to U_N)	Typ. input current at U_N	Transmission frequency f_{limit}	Type	Order No.	Pcs. / Pkt.
5 V DC	0.8 ... 1.2	15 mA	50 Hz	PLC-OSC- 5DC/300DC/ 1	2980652	10
12 V DC	0.8 ... 1.2	6 mA	50 Hz	PLC-OSC- 12DC/300DC/ 1	2980665	10
24 V DC	0.8 ... 1.2	8 mA	50 Hz	PLC-OSC- 24DC/300DC/ 1	2980678	10
60 V DC	0.8 ... 1.2	5 mA	50 Hz	PLC-OSC- 60DC/300DC/ 1	2980681	10
110 V DC	0.8 ... 1.2	5 mA	50 Hz	PLC-OSC-110DC/300DC/ 1	2980694	10
220 V DC	0.8 ... 1.2	3 mA	50 Hz	PLC-OSC-220DC/300DC/ 1	2980704	10
120 V AC	0.8 ... 1.1	5.6 mA	10 Hz	PLC-OSC-120AC/300DC/ 1	2980717	10
230 V AC	0.8 ... 1.1	8.4 mA	10 Hz	PLC-OSC-230AC/300DC/ 1	2980720	10

Accessories	Type	Order No.	Pcs. / Pkt.
Partition plate, thickness 2 mm, required at the start and end of a PLC terminal strip, color: black	PLC-ATP BK	2966841	25
Power terminal block, for supply of up to 4 potentials, max. 32 A/250 V AC, color: gray	PLC-ESK GY	2966508	5
Jumper, 500 mm long, can be cut to length, for potential distribution, color: red	FBST 500-PLC RD	2966786	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: blue	FBST 500-PLC BU	2966692	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: gray	FBST 500-PLC GY	2966838	20
Jumper, 2-pos., 6 mm long, for potential distribution, color: red	FBST 6-PLC RD	2966236	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: blue	FBST 6-PLC BU	2966812	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: gray	FBST 6-PLC GY	2966825	50

Power solid-state relay module with screw connection, 24 V DC / 3 A

Note:
For marking material (UC-TM 6 or ZB 6), see "Marking systems, tools, and mounting material".

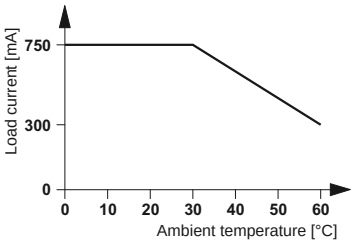


Common technical data	
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Limiting continuous current	3 A (see derating curve)
Voltage drop at max. limiting continuous current	≤ 200 mV
Ambient temperature (operation)	-25 °C ... 60 °C
Dimensions W / H / D	6.2 mm / 80 mm / 94 mm

Certification	Input voltage U_N	Input range (reference to U_N)	Typ. input current at U_N	Transmission frequency f_{limit}	Type	Order No.	Pcs. / Pkt.
	24 V DC	0.8 ... 1.2	8.5 mA	300 Hz	PLC-OSC- 24DC/ 24DC/ 2	2966634	10
	48 V DC	0.8 ... 1.2	9 mA	300 Hz	PLC-OSC- 48DC/ 24DC/ 2	2967002	10
	60 V DC	0.8 ... 1.2	5 mA	100 Hz	PLC-OSC- 60DC/ 24DC/ 2	2967468	10
	125 V DC	0.8 ... 1.1	3 mA	100 Hz	PLC-OSC-125DC/ 24DC/ 2	2980050	10
	120 V AC (110 V DC)	0.9 ... 1.1	3.5 mA	10 Hz	PLC-OSC-120UC/ 24DC/ 2	2966650	10
	230 V AC (220 V DC)	0.9 ... 1.1	3.5 mA	10 Hz	PLC-OSC-230UC/ 24DC/ 2	2966663	10

Accessories	Type	Order No.	Pcs. / Pkt.
Partition plate, thickness 2 mm, required at the start and end of a PLC terminal strip, color: black	PLC-ATP BK	2966841	25
Power terminal block, for supply of up to 4 potentials, max. 32 A/250 V AC, color: gray	PLC-ESK GY	2966508	5
Jumper, 500 mm long, can be cut to length, for potential distribution, color: red	FBST 500-PLC RD	2966786	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: blue	FBST 500-PLC BU	2966692	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: gray	FBST 500-PLC GY	2966838	20
Jumper, 2-pos., 6 mm long, for potential distribution, color: red	FBST 6-PLC RD	2966236	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: blue	FBST 6-PLC BU	2966812	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: gray	FBST 6-PLC GY	2966825	50

Power solid-state relay module with screw connection, 230 V AC / 0.75 A



Note:
For marking material (UC-TM 6 or ZB 6), see "Marking systems, tools, and mounting material".

Common technical data	
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 2.5 mm² / 26 - 14
Limiting continuous current	0.75 A (see derating curve)
Voltage drop at max. limiting continuous current	< 1 V
Ambient temperature (operation)	-25 °C ... 60 °C
Dimensions W / H / D	6.2 mm / 80 mm / 94 mm

Certification	Input voltage U_N	Input range (reference to U_N)	Typ. input current at U_N	Transmission frequency f_{limit}	Type	Order No.	Pcs. / Pkt.
	24 V DC	0.8 ... 1.2	8 mA	10 Hz	PLC-OSC- 24DC/230AC/ 1	2967840	10
	48 V DC	0.8 ... 1.2	9 mA	10 Hz	PLC-OSC- 48DC/230AC/ 1	2967853	10
	60 V DC	0.8 ... 1.2	6 mA	10 Hz	PLC-OSC- 60DC/230AC/ 1	2967866	10
	125 V DC	0.8 ... 1.1	3.5 mA	10 Hz	PLC-OSC-125DC/230AC/ 1	2980063	10
	120 V AC (110 V DC)	0.9 ... 1.1	4 mA	3 Hz	PLC-OSC-120UC/230AC/ 1	2967879	10
	230 V AC (220 V DC)	0.8 ... 1.1	3.5 mA	3 Hz	PLC-OSC-230UC/230AC/ 1	2967882	10

Accessories	Type	Order No.	Pcs. / Pkt.
Partition plate, thickness 2 mm, required at the start and end of a PLC terminal strip, color: black	PLC-ATP BK	2966841	25
Power terminal block, for supply of up to 4 potentials, max. 32 A/250 V AC, color: gray	PLC-ESK GY	2966508	5
Jumper, 500 mm long, can be cut to length, for potential distribution, color: red	FBST 500-PLC RD	2966786	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: blue	FBST 500-PLC BU	2966692	20
Jumper, 500 mm long, can be cut to length, for potential distribution, color: gray	FBST 500-PLC GY	2966838	20
Jumper, 2-pos., 6 mm long, for potential distribution, color: red	FBST 6-PLC RD	2966236	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: blue	FBST 6-PLC BU	2966812	50
Jumper, 2-pos., 6 mm long, for potential distribution, color: gray	FBST 6-PLC GY	2966825	50

Interface modules and system cables with FLK or D-SUB connectors

VARIOFACE Professional offers compact interface modules with various different connection technologies for the widely-used FLK, D-SUB, and high-density D-SUB connectors.

Our system cables ensure safe connection of automation devices and modules. Pre-assembled FLK and D-SUB cables are available for this purpose.

Modules with FLK connectors VIP-2/SC/FLK... with screw connection

Common technical data	
Connection method	Screw connection
Connection type, connector	Pin
Connection cross section / AWG	0.2 mm² ... 2.5 mm² / 24 - 12
Operating voltage	60 V AC/DC
Max. perm. current (per branch)	1 A
Ambient temperature range	-20 °C ... 50 °C
Mounting position	Any
Height / depth	65.5 mm / 56 mm

Certification	No. of pos.	Width	Type	Order No.	Pcs. / Pkt.
	10	34.7 mm	VIP-2/SC/FLK10	2315010	1
	14	39.8 mm	VIP-2/SC/FLK14	2315023	1
	16	45 mm	VIP-2/SC/FLK16	2315036	1
	20	55.1 mm	VIP-2/SC/FLK20	2315049	1

Modules with FLK connectors VIP-3/SC/FLK... with screw connection

Common technical data	
Connection method	Screw connection
Connection cross section / AWG	0.2 mm² ... 2.5 mm² / 24 - 12
Operating voltage	60 V AC/DC
Max. perm. current (per branch)	1 A
Ambient temperature range	-20 °C ... 50 °C
Mounting position	Any
Height / depth	69 mm / 62 mm

Certification	No. of pos.	Width	Type	Order No.	Pcs. / Pkt.
	26	57.1 mm	VIP-3/SC/FLK26	2315052	1
	34	67.3 mm	VIP-3/SC/FLK34	2315065	1
	40	77.4 mm	VIP-3/SC/FLK40	2315078	1
	50	92.7 mm	VIP-3/SC/FLK50	2315081	1
	60	108 mm	VIP-3/SC/FLK60	2315094	1
	64	118 mm	VIP-3/SC/FLK64	2315104	1

Modules with D-SUB connectors VIP-2/SC/D...SUB/... with screw connection

Common technical data	
Certification	
Connection method	Screw connection
Connection cross section / AWG	0.2 mm² ... 2.5 mm² / 24 - 12
Operating voltage	125 V AC/DC
Max. perm. current (per branch)	2 A
Ambient temperature range	-20 °C ... 50 °C
Mounting position	Any
Height / depth	65.5 mm / 45.1 mm

Connection type, connector	No. of pos.	Width	Type	Order No.	Pcs. / Pkt.
Pin	9	34.7 mm	VIP-2/SC/D 9SUB/M	2315117	1
Pin	15	45 mm	VIP-2/SC/D15SUB/M	2315120	1
Socket	9	34.7 mm	VIP-2/SC/D 9SUB/F	2315162	1
Socket	15	45 mm	VIP-2/SC/D15SUB/F	2315175	1

System cables with FLK connectors, 14-pos.

Common technical data	
Certification	
Number of positions	14
Max. perm. operating voltage	< 50 V AC / 60 V DC
Max. perm. current carrying capacity per path	1 A
Max. conductor resistance	0.16 Ω/m
Ambient temperature range	-20 °C ... 50 °C
Assembly	Insulation displacement, IEC 60352-4/DIN EN 60352-4
Conductor cross section / AWG	0.14 mm² / 26
Conductor structure: stranded wires / material	7 / Cu tin-plated
Outside diameter	6.4 mm

Length	Type	Order No.	Pcs. / Pkt.
0.5 m	VIP-CAB-FLK14/0,14/0,5M	2318389	1
1 m	VIP-CAB-FLK14/0,14/1,0M	2318392	1
1.5 m	VIP-CAB-FLK14/0,14/1,5M	2318402	1
2 m	VIP-CAB-FLK14/0,14/2,0M	2318415	1
3 m	VIP-CAB-FLK14/0,14/3,0M	2318428	1
4 m	VIP-CAB-FLK14/0,14/4,0M	2318431	1
6 m	VIP-CAB-FLK14/0,14/6,0M	2318444	1

System cables with FLK connectors, 16-pos.

Common technical data	
Certification	
Number of positions	16
Max. perm. operating voltage	< 50 V AC / 60 V DC
Max. perm. current carrying capacity per path	1 A
Max. conductor resistance	0.16 Ω/m
Ambient temperature range	-20 °C ... 50 °C
Assembly	Insulation displacement, IEC 60352-4/DIN EN 60352-4
Conductor cross section / AWG	0.14 mm² / 26
Conductor structure: stranded wires / material	7 / Cu tin-plated
Outside diameter	6.8 mm

Length	Type	Order No.	Pcs. / Pkt.
0.5 m	VIP-CAB-FLK16/0,14/0,5M	2318460	1
1 m	VIP-CAB-FLK16/0,14/1,0M	2318473	1
1.5 m	VIP-CAB-FLK16/0,14/1,5M	2318486	1
2 m	VIP-CAB-FLK16/0,14/2,0M	2318499	1
3 m	VIP-CAB-FLK16/0,14/3,0M	2318509	1
4 m	VIP-CAB-FLK16/0,14/4,0M	2318512	1
6 m	VIP-CAB-FLK16/0,14/6,0M	2318525	1

System cables with FLK connectors, 20-pos.

Common technical data	
Certification	
Number of positions	20
Max. perm. operating voltage	< 50 V AC / 60 V DC
Max. perm. current carrying capacity per path	1 A
Max. conductor resistance	0.16 Ω/m
Ambient temperature range	-20 °C ... 50 °C
Assembly	Insulation displacement, IEC 60352-4/DIN EN 60352-4
Conductor cross section / AWG	0.14 mm² / 26
Conductor structure: stranded wires / material	7 / Cu tin-plated
Outside diameter	7.6 mm

Length	Type	Order No.	Pcs. / Pkt.
0.5 m	VIP-CAB-FLK20/0,14/0,5M	2318541	1
1 m	VIP-CAB-FLK20/0,14/1,0M	2318554	1
1.5 m	VIP-CAB-FLK20/0,14/1,5M	2318567	1
2 m	VIP-CAB-FLK20/0,14/2,0M	2318570	1
3 m	VIP-CAB-FLK20/0,14/3,0M	2318583	1
4 m	VIP-CAB-FLK20/0,14/4,0M	2318596	1
6 m	VIP-CAB-FLK20/0,14/6,0M	2318606	1

8

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PHOENIX CONTACT
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MRESET
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AXL RS UNI-ME
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1 2 3 4
X1
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5 6

Control technology, I/O systems, and automation infrastructure

Phoenix Contact offers you more realtime, more wireless, more security, and more reliability. Industrial Ethernet from Phoenix Contact can be easily integrated in your automation infrastructure - because we make Ethernet easy.

HMIs and industrial PCs are the key to the efficient operation and monitoring of your systems and machines. You can work with a portable Bluetooth tablet PC directly on site – or design detailed user interfaces as the interface to your system using a powerful HMI device.

Software is the key to more efficient automation. Phoenix Contact offers software from configuration to system operation – intelligent solutions that guide you through every stage of the value-added chain of your automation solution.
All products interact perfectly and impress with their innovative functions and intuitive, user-friendly operation. In addition, a wide range of ready-to-use block libraries is also available.

I/O systems from Phoenix Contact are the perfect solution for control cabinet manufacturing or field installation. Inline, our I/O automation kit, can be used to connect sensors and actuators with a maximum range of functions. These I/Os can also be found in safety applications or potentially explosive areas.

As modern systems and machines become increasingly automated, ever larger amounts of information need to be processed.
The higher data volumes, coupled with the integration of complex field devices, are demanding more and more in terms of the performance capabilities of the communication networks used.

Product range overview

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A full range of industrial Ethernet solutions

The comprehensive range of industrial Ethernet products and services from Phoenix Contact provides solutions for all configuration levels of an Ethernet-based automation solution.

The products range from passive components (such as cables and patch fields) and active infrastructure components (media converters, hubs, switches) to proxy and gateway solutions for automation networks. The automation specialist has complete control of their automation network at all times via the user-friendly network management tools.

Selection of suitable installation and connection technology for copper, glass, and plastic cables enables reliable networking of the Ethernet devices even under harsh ambient conditions in the field.

Standard switches with basic functions

The unmanaged FL SWITCH SFNB ... switches are optimized for basic and entry level applications, where minimal installation costs with full industrialization are required.

FL SWITCH SFNB 5TX

FL SWITCH SFNB 8TX

Common technical data	
Transmission speed	10/100 Mbps
Ethernet connection type	RJ45
Basic functions	Unmanaged switch / auto negotiation, complies with IEEE 802.3, store-and-forward switching mode
Supply voltage	24 V DC
Ambient temperature (operation)	-10 °C ... 60 °C

Number of Ethernet ports	Supply voltage range	Type	Order No.	Pcs. / Pkt.
5 (RJ45 ports)	12 V DC ... 48 V DC	FL SWITCH SFNB 5TX	2891001	1
8 (RJ45 ports)	9 V DC ... 32 V DC	FL SWITCH SFNB 8TX	2891002	1

Standard switches with up to 8 ports

The FL SWITCH SFN ... Factoryline switches with standard functions are designed for use in the control cabinet and have a design width of 30 mm in the five-port versions and 50 mm in the eight-port versions. Up to 2 ports are available with fiberglass connection technology.

FL SWITCH SFN 5TX

FL SWITCH SFN 7TX/FX ST

Common technical data	
Transmission speed	10/100 Mbps
Ethernet connection type	RJ45
Basic functions	Unmanaged switch / auto negotiation, complies with IEEE 802.3, store-and-forward switching mode
Supply voltage	24 V DC
Supply voltage range	9 V DC ... 30.2 V DC
Ambient temperature (operation)	0 °C ... 60 °C

Number of Ethernet ports	Number of FO ports	Fiber optic connection method	Wavelength	Type	Order No.	Pcs. / Pkt.
5 (RJ45 ports)	-	-	-	FL SWITCH SFN 5TX	2891152	1
8 (RJ45 ports)	-	-	-	FL SWITCH SFN 8TX	2891929	1
4 (RJ45 ports)	1 (FO port)	SC	1300 nm/1310 nm	FL SWITCH SFN 4TX/FX	2891851	1
7 (RJ45 ports)	1 (FO port)	SC	1300 nm/1310 nm	FL SWITCH SFN 7TX/FX	2891097	1
4 (RJ45 ports)	1 (FO port)	ST	1300 nm/1310 nm	FL SWITCH SFN 4TX/FX ST	2891453	1
7 (RJ45 ports)	1 (FO port)	ST	1300 nm/1310 nm	FL SWITCH SFN 7TX/FX ST	2891110	1
6 (RJ45 ports)	2 (FO ports)	SC	1300 nm	FL SWITCH SFN 6TX/2FX	2891314	1
6 (RJ45 ports)	2 (FO ports)	ST	1300 nm	FL SWITCH SFN 6TX/2FX ST	2891411	1

Standard SF switch

The unmanaged FL SWITCH SF ... switches, which are located in a flat metal housing, have a wide range of port configurations and are ideal for standard applications.

Technical data	
Number of Ethernet ports	8 (RJ45 ports)
Transmission speed	10/100 Mbps
Ethernet connection type	RJ45
Basic functions	Unmanaged switch / auto negotiation, complies with IEEE 802.3, store-and-forward switching mode
Supply voltage	24 V DC
Supply voltage range	18.5 V DC ... 30.2 V DC
Ambient temperature (operation)	0 °C ... 55 °C

Type	Order No.	Pcs. / Pkt.
FL SWITCH SF 8TX	2832771	1

Lean Managed Switches

Our Lean Managed Switches are available for inexpensive managed Ethernet networks. The compact devices can be used in extended temperature ranges from -40 °C to 70 °C. The Lean Managed Switches support the EtherNet/IP™ automation protocol and can therefore set up and manage multicast groups automatically.
In addition to the non-proprietary RSTP protocol for redundant network structures, the FL SWITCH LM also supports fast ring detection for minimum switchover times in automation networks.

FL SWITCH LM 5TX

FL SWITCH LM 8TX

Common technical data	
Transmission speed	10/100 Mbps
Ethernet connection type	RJ45
Basic functions	Store-and-forward switch complies with IEEE 802.3 2, priority classes according to IEEE 802.1 P TCP/IP protocol, BootP-compatible, port mirroring, integrated web server function, multicast filtering, IGMP snooping, VLAN, Rapid Spanning Tree (RSTP), DHCP server, PTCP filter
Supply voltage	24 V DC
Supply voltage range	18.5 V DC ... 30.5 V DC
Ambient temperature (operation)	-40 °C ... 70 °C

Number of Ethernet ports	Type	Order No.	Pcs. / Pkt.
5 (RJ45 ports)	FL SWITCH LM 5TX	2989527	1
8 (RJ45 ports)	FL SWITCH LM 8TX	2832632	1

Standard switch, IP67 protection

The FL SWITCH 1605 was developed for use in harsh environments. Thanks to its degree of protection and compact design, it is ideal for use directly in the machine.

Technical data	
Number of Ethernet ports	5 (M12 socket)
Transmission speed	10/100 Mbps
Ethernet connection type	M12
Basic functions	Unmanaged switch/auto negotiation, complies with standard IEEE 802.3, store-and-forward switching mode, 2 priority classes according to IEEE802.1 P, PTCP filter
Supply voltage	24 V DC (M12 connector)
Supply voltage range	18 V DC ... 32 V DC
Ambient temperature (operation)	-40 °C ... 70 °C

Type	Order No.	Pcs. / Pkt.
FL SWITCH 1605 M12	2700200	1

Wireless Ethernet

Modern wireless transmission systems simplify installation, reduce maintenance and downtimes, increase system availability, and thus result in increased productivity.
Phoenix Contact provides the ideal industrial wireless solution for your requirements. The wireless products have been specially designed for use in industrial environments and offer a high degree of reliability and data security, whilst still being easy to handle.
Irrespective of whether you want to transfer just a few IO signals or large volumes of data; whether communication is to take place in realtime over short distances or over several hundred meters; whether dealing with a production hall with a metallic environment or an outdoor area, the product range provides the ideal solution and the required accessories for every requirement.

Industrial WLAN - access point

WLAN access point, client, WLAN 802.11 a, b, g, n, frequency: 2.4 GHz, 5 GHz, IP20, connections: COMBICON for 10 ... 36 V DC, 2 x RJ45 for LAN, central cluster management, WBM, 802.11i: WPA2, WPA-PSK, TKIP, AES, connections for 3 antennas (MiMo technology)

Technical data	
Supply voltage	24 V DC
Ethernet connection type	RJ45 socket
Wireless standard	IEEE 802.11
Frequency band	2.4 GHz / 5 GHz
Antenna connection method	RSMA (female)
Transmission power	max. 23 dBm (EIRP)
Wireless licenses	EU, more countries in e-shop
Automatic channel selection	Yes
Operating modes	Access point/client adapter/repeater/WDS bridge
Configuration	Cluster management, web-based management, WPS
Security	802.11i, WPA PSK (preshared key), WPA2, AES, TKIP, supports 802.1X/RADIUS , MAC filter
Degree of protection	IP20
Width / height / depth	40 mm / 109 mm / 109 mm
Ambient temperature (operation)	-25 °C ... 60 °C (Extended temperature range on request)

Type	Order No.	Pcs. / Pkt.
FL WLAN 5100	2700718	1

Industrial WLAN - Ethernet adapter

WLAN Ethernet port adapter; as a wireless connection from an Ethernet interface to a WLAN access point

Common technical data	
Supply voltage	24 V DC
Ethernet connection type	M12 connectors (D-coded, female)
Wireless standard	IEEE 802.11
Wireless licenses	Europe, USA, Canada, additional countries in the e-shop
Automatic channel selection	Yes
Operating modes	Ethernet client adapter
Configuration	Web interface, MODE button, AT commands (TCP/IP), SSC
Quality of service (QoS)	Yes
Security	802.11i, WPA PSK (preshared key), WPA2 PSK, AES, WEP 64 bit/128 bit, TKIP, supports 802.1X/RADIUS
Degree of protection	IP65
Width / height / depth	66 mm / 91 mm / 34 mm
Ambient temperature (operation)	-40 °C ... 65 °C

Frequency band	Frequency range	Antenna connection method	Transmission power	Type	Order No.	Pcs. / Pkt.
2.4 GHz/5 GHz	2.402 GHz ... 5.25 GHz (ISM bandwidth)	RSMA (female)	max. 20 dBm (EIRP)	FL WLAN EPA RSMA	2701169	1
2.4 GHz	2.402 GHz ... 2.48 GHz (ISM bandwidth)	(Internal)	max. 20 dBm (EIRP)	FL WLAN EPA	2692791	1
5 GHz	5.15 GHz ... 5.25 GHz (ISM bandwidth)	(Internal)	max. 14 dBm (EIRP)	FL WLAN EPA 5N	2700488	1

Industrial Bluetooth - Ethernet adapter

Bluetooth Ethernet port adapter, 2.4 GHz frequency band, 1 wireless interface, WLAN black channel list, LEM, country registrations, autocrossing, IP65 protection, PROFINET and PROFIsafe-compatible.
Connections: M12 for 9 - 30 V DC, M12 for LAN.

Technical data	
Supply voltage	24 V DC
Wireless standard	Bluetooth 2.1 + EDR
Frequency range	2.402 GHz ... 2.48 GHz (ISM bandwidth)
Antenna connection method	(Internal)
Transmission power	max. 15 dBm (EIRP)
Wireless modules that can be connected	1
Wireless licenses	Europe, additional countries in the e-shop
Digital inputs/outputs	1
Ambient temperature (operation)	-40 °C ... 65 °C

Type	Order No.	Pcs. / Pkt.
FL BT EPA	2692788	1

Wireless MUX set

The Wireless MUX is sold as a "Ready to use" package:
Unpack – connect – switch on – and the wireless link is working.
The signal connected at the input of the wireless MUX can be output at the corresponding output of the other wireless MUX in a typical time of less than 10 ms. The Wireless MUX transmits 16 digital and 2 analog signals bidirectionally. The link quality display provides the user with constant information on the quality of the link.

ILB BT ADIO MUX-OMNI

ILB BT ADIO MUX-PANEL

Common technical data	
Supply voltage	24 V DC
Wireless standard	Bluetooth 1.2
Frequency range	2.402 GHz ... 2.48 GHz (ISM bandwidth)
Antenna connection method	MCX (female)
Wireless licenses	Europe, additional countries in the e-shop
Analog inputs/outputs	2 / 2
Ambient temperature (operation)	-25 °C ... 60 °C

Description	Transmission power	Digital inputs/outputs	Type	Order No.	Pcs. / Pkt.
Wireless set with OMNI omnidirectional antenna	16 dBm (40 mW, controlled automatically)	16	ILB BT ADIO MUX-OMNI	2884208	1
Wireless set with OMNI omnidirectional antenna, with reduced transmission capacity	8 dBm (6.3 mW, controlled automatically)	-	ILB BT ADIO MUX-OMNI 8	2884554	1
Wireless set with OMNI omnidirectional antenna and maritime approval	8 dBm (6.3 mW, controlled automatically)	16 / 16	ILB BT ADIO MUX-OMNI 8/M	2693185	1
Wireless set with PANEL directional wireless antenna	12 dBm (16 mW, controlled automatically)	-	ILB BT ADIO MUX-PANEL	2884509	1
Wireless set with PANEL directional wireless antenna, with reduced transmission capacity	0 dBm (1 mW, controlled automatically)	-	ILB BT ADIO MUX-PANEL 8	2884567	1

Wireless IO

The Wireless IO devices are connected to the Fieldline Modular local bus via a Wireless IO base station. True to their name, the connection is "wireless". The various available bus couplers can be used to integrate all common automation networks such as INTERBUS, PROFIBUS or PROFINET and EtherNet/IP™.
Thanks to the robust IP65 housing, the Fieldline IO devices can be mounted directly in the machine, close to the peripherals. Configuration is easy and reliable with the ID-PLUG.

FLM BT BS 3

ILB BT ADIO 2/2/16/16

Common technical data	
Supply voltage	24 V DC
Wireless standard	Bluetooth 1.2
Frequency range	2.402 GHz ... 2.48 GHz (ISM bandwidth)
Antenna connection method	SMA (female)
Wireless licenses	Europe, additional countries in the e-shop
Ambient temperature (operation)	-25 °C ... 60 °C

Transmission power	Wireless modules that can be connected	Digital inputs/outputs	Analog inputs/outputs	Type	Order No.	Pcs. / Pkt.
8 dBm (6.3 mW, controlled automatically)	Up to 3 (2736767 FLM BT DIO 8/8 M12, 2693208 FLM BT DI 16 M12, 2884282 ILB BT ADIO 2/2/16/16)	-	-	FLM BT BS 3	2736770	1
8 dBm (6.3 mW, controlled automatically)	1 (FLM BT BS 3, FL BT MOD IO AP)	-	-	FLM BT DIO 8/8 M12	2736767	1
16 dBm (Can be set between 0 dBm/ 1 mW and 16 dBm/39.8 mW in 4 dB increments)	1 (FLM BT BS 3, FL BT MOD IO AP)	16	2 / 2	ILB BT ADIO 2/2/16/16	2884282	1

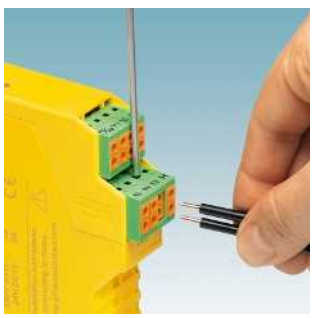
Functional safety

Safety devices
– Modules for all common applications such as emergency stop, safety doors, light grids, etc.
– Modules for monitoring various speeds during operation and downtime
– Modules for coupling digital output signals from failsafe controllers to I/O devices

Configurable safety modules
– Multifunctional evaluation module with 20 safe inputs and 4 safe outputs
– Multifunctional extendable safety module
– Monitoring of all the safety-related functions of a machine, such as emergency stop, safety doors, light grids, etc.
– Flexible extension with safe digital I/O modules
– Easy configuration using the SAFECONF software

Network safety solutions
– SafetyBridge I/O modules exchange safe signals via an automation network
– Flexible use: compatible with all common bus systems
– Easy configuration using the SAFECONF software

Safe control technology
With high-performance safety controllers, proxies, and gateways, you can also reliably integrate functional safety in your PROFIsafe networks.
– Controls even large numbers of I/Os reliably, thanks to high-performance technology
– Reduced wiring effort, thanks to the joint transmission of control and safety protocols via a single Ethernet cable
– Uniform configuration worldwide, thanks to standardized programming according to IEC 61131



Convenient connection technology

All PSR safety devices are available with plug-in screw or spring-cage connection technology.
The twin spring-cage plugs provide enough space for two cables per terminal point.

Quick extension

The modular safety systems allow additional extension modules to be integrated easily using the PSR-TBUS DIN rail connector. As a result, there is no longer any need to install cross-wiring for additional output contacts.

Numerous approvals

PSR safety devices conform to all applicable safety standards such as EN ISO 13849-1 and IEC 61508. In addition, modules with GL approval or certification according to EN 50156 are also available.

Further information on the products presented and the world of solutions from Phoenix Contact can be found at phoenixcontact.net/products

HMIs and industrial PCs

HMIs and industrial PCs are the key to the efficient operation and monitoring of your systems and machines. You can work with a portable Bluetooth tablet PC directly on site – or design detailed user interfaces as the interface to your system using a powerful HMI device.
Industrial PCs and HMIs from Phoenix Contact are so versatile and flexible that they do not present any restrictions for your operation and monitoring concepts. Visu+ and WebVisit are the corresponding visualization software tools. In addition to the wide range of products, we also provide worldwide service.

Industrial PCs

Industrial PCs, or IPCs for short, combine the computing capacity of modern processors with the robustness and reliability of industrial components. Together with the right software, IPCs are efficient and versatile solutions for controlling, operating, and monitoring systems and machines.

Configurable panel PC

The panel PC combines the advantages of a modern industrial PC with the operation and monitoring functions of a touch monitor. It is designed for installation in the front of the control cabinet or for use at field level. The high system availability is based on the fanless design and the absence of moving parts.

You can define the following features with your configuration:
– Display sizes from 30.7 cm (12.1") to 60.9 cm (24") available
– Processor performance suited to the application
– Operating system
– Main and data memory
– Optical drive

Technical data	
Display	without 30.7 cm/12.1" TFT active 38.1 cm/15" TFT active 43.2 cm/17" TFT active 48.3 cm/19" TFT active 60.9 cm/24" - TFT active
Monitor resolution	800 x 600 Pixel (SVGA)
Operating systems	No operating system Windows XP SP3 (English, German, multilingual) Windows XP SP2 Windows 7 32-bit Ultimate (multilingual) Windows 7 Professional (English, German) Windows Embedded Standard 2009 Windows Embedded Standard 7
Processor	Atom™ 1.6 GHz N270 Celeron® M 1.01 GHz Core™2 Duo 1.5 GHz
Main memory	512 MB DDR SODIMM 1 GB DDR SODIMM 2 GB DDR SODIMM 3 GB DDR SODIMM
Mass storage	2.5 in. SATA hard drive 2.5 in. SATA solid-state drive
Interfaces	COM 1 (RS-232), 1x VGA, 4x USB, 2x CompactFlash®
Degree of protection	IP65 (front), IP20 (back)
Ambient temperature (operation)	-20 °C ... 55 °C (Configuration options can affect the operating temperature. See user manual for details)

	Type	Order No.	Pcs. / Pkt.
	VALUELINE IPC	2913108	1

Accessories	Type	Order No.	Pcs. / Pkt.
Protective foil for 15" touch screen. 10-pack.	VL 15" DISPLAY PROTECTIVE FOIL	2913165	1
Mounting kit. Includes hardware for installation in a panel.	VL PANEL MOUNTING KIT	2913159	1
Mounting kit. For use with 15" and 17" displays to accommodate thicker panels. Includes required hardware.	VL PANEL+ MOUNTING KIT	2701177	1

Automation software

The performance of automation systems has been constantly improving over the years. Today, the software handles many functions which were previously implemented in the hardware. The increasing demands of flexibility in machines and systems almost inevitably increase their complexity. This is why it is becoming increasingly important that the software required for automation not only handles the functional aspects, but also covers the complete engineering workflow. Hence, the decision to use a specific solution is no longer just based on the procurement costs alone. The software that is used must also significantly reduce startup and modification times.

PC WORX

PC Worx is the consistent automation software according to IEC 61131 for all controllers from Phoenix Contact.
PC Worx has an integrated bus configurator for configuring network structures. It supports INTERBUS and PROFINET networks. Other fieldbus systems can be configured using proxies together with a device description file.

Common technical data	
PC	Pentium 4/Celeron 1.6 GHz, minimum
Operating systems	MS Windows XP SP3, MS Windows Vista Business SP2, MS Windows 7 Professional (32/64-bit) SP1
Supported browsers	Internet Explorer Version 7 or later
Basic functions	Planning an automation system, parameterizing the INTERBUS and PROFINET devices, operating INTERBUS and PROFINET, programming an automation system in acc. with IEC 61131-3, communication in acc. with IEC 61131-5 IEC 61131 includes the following programming languages: instruction list (IL), function block diagram (FBD), ladder diagram (LD), structured text (ST), sequential function chart (SFC) Add-on to IEC 61131: fixed format ladder editor (FFLD) and machine sequential function chart (MSFC) (as of PC WORX PRO LIC license) Network configuration (functionality of Config+) Network diagnostics (functionality of Diag+)
Configuration	INTERBUS, PROFINET
Diagnostics	INTERBUS, PROFINET
Languages supported	German, English, French, Italian, Spanish, Chinese

Expanded functionality	Type	Order No.	Pcs. / Pkt.
256 bytes of I/O data (mixed) (basic license)	PC WORX BASIC LIC	2985275	1
128 kbytes of I/O data (mixed) (full license)	PC WORX PRO LIC	2985385	1

WEBVISIT 6 BASIC

WebVisit 6 is the engineering tool used to create web visualizations for all controllers with integrated web server.
WebVisit visualization pages can be displayed in any standard browser and on all of our web panels with integrated runtime environment. When you use WebVisit you only pay for the engineering once and create any number of pages.

Technical data	
PC	Pentium 4/Celeron 1.6 GHz, minimum
Operating systems	MS Windows XP SP3, MS Windows Vista Business SP2, MS Windows 7 Professional (32/64-bit) SP1
Supported browsers	Internet Explorer Version 7 or later
Basic functions	The user interface has a functional design and even the basic version offers numerous basic graphical elements and functions. The variables needed for visualization are imported directly from PC Worx.
Languages supported	English

Type	Order No.	Pcs. / Pkt.
WEBVISIT 6 BASIC	2700948	1

Controllers

The right controller for every application: Phoenix Contact's product portfolio ranges from PC-based controller solutions and modular controllers to compact high-end controllers.
The devices are grouped into different performance classes. Common to all is the integrated RJ45 interface, which makes the controllers true communication experts. The integrated web server enables the worldwide display of visualizations created with WebVisit using a Java-compatible web browser. The RJ45 interface in all controllers supports the OPC functionality so that data can be supplied to more demanding visualizations that have been created using VISU+.

Class 100 compact controllers

Class 100 compact controllers are at the heart of the Easy Automation system. The smallest PLCs from the Phoenix Contact controller range include many integrated features.

ILC 131 ETH

WP 04T

Common technical data	
Interfaces	INTERBUS local bus (master) Parameterization/operation/diagnostics Ethernet 10Base-T/100Base-TX
Number of control tasks	8

Processing speed	Program memory	Mass storage	Retentive data memory	Type	Order No.	Pcs. / Pkt.
1.7 ms (1 K mix instructions)	192 kByte (16 K instructions (IL))	192 kbytes	8 kbytes (NVRAM)	ILC 131 ETH	2700973	1
1.5 ms (1 K mix instructions)	256 kByte (21 K instructions (IL))	256 kbytes	8 kbytes (NVRAM)	ILC 151 ETH	2700974	1
1.5 ms (1 K mix instructions)	512 kByte (43 K instructions (IL))	512 kbytes	48 kbytes (NVRAM)	ILC 171 ETH 2TX	2700975	1
1.3 ms (1 K mix instructions)	1 Mbyte (86 K instructions (IL))	1 Mbyte	48 kbytes (NVRAM)	ILC 191 ETH 2TX	2700976	1

Accessories	Type	Order No.	Pcs. / Pkt.
Web panel, with graphics-capable 8.9 cm (3.5") display	WP 04T	2913632	1
Web panel, with graphics-capable 14.5 cm (5.7") display	WP 06T	2913645	1
Web panel, with graphics-capable 26.4 cm (10.5") display	WP 10T	2700934	1
Web panel, with graphics-capable 38.1 cm (15") display	WP 15T	2700935	1

Class 300 high-performance controllers

Class 300 high-performance controllers can be used in complex applications where a high level of performance is required.
Thanks to a consistent PROFINET connection and optional expansion with I/O modules from the Inline product range, these controllers can be used very flexibly.

ILC 330 PN

WP 04T

Common technical data	
Interfaces	INTERBUS local bus (master) Parameterization/programming/diagnostics Ethernet 10Base-T/100Base-TX
Retentive data memory	64 kbytes (NVRAM)
Number of control tasks	16

Processing speed	Program memory	Mass storage	Type	Order No.	Pcs. / Pkt.
0.7 ms (1 K mix instructions)	typ. 750 kbytes (64 K instructions (IL))	1.5 Mbytes	ILC 330 PN	2988191	1
0.5 ms (1 K mix instructions)	typ. 1 Mbyte (85 K instructions (IL))	2 Mbytes	ILC 350 PN	2876928	1

Accessories	Type	Order No.	Pcs. / Pkt.
Web panel, with graphics-capable 8.9 cm (3.5") display	WP 04T	2913632	1
Web panel, with graphics-capable 14.5 cm (5.7") display	WP 06T	2913645	1
Web panel, with graphics-capable 26.4 cm (10.5") display	WP 10T	2700934	1
Web panel, with graphics-capable 38.1 cm (15") display	WP 15T	2700935	1
Parameterization memory, replaceable	CF FLASH 256MB	2988780	1

For the control cabinet (IP20) - Inline Modular and Inline Block IO

The highly modular Inline I/O system offers the user the greatest possible benefits through optimum adaptability to any automation task. Whether for high granularity of digital inputs or outputs or for high reliability of analog sensors and actuators. Function terminals, motor control switches and safety products round off the range.
Inline Modular I/O channels extend class 100 and 300 controllers to create distributed automation solutions.
They are supplied together with all the accessories (plug and labeling field)

The compact Inline Block IO modules offer the user a large number of channels in a minimum amount of space at a reasonable price.
The modules, which are only 55 mm high, save space and therefore enable new solutions.

Bus couplers

The Inline Modular system is an I/O system that is compatible with all bus types. The use of network-specific bus couplers enables a network-independent station structure.
Bus couplers connect the terminals of an Inline I/O station to the higher-level network.

IL PN BK DI8 DO4 2TX-PAC

IBS IL 24 BK-T/U-PAC

Common technical data	
Supply voltage	24 V DC (via Inline plug)

Fieldbus system	Digital inputs/outputs	Current consumption maximum	Width	Ambient temperature (operation)	Type	Order No.	Pcs. / Pkt.
PROFINET	4	138 mA	80 mm	-25 °C ... 55 °C (observe derating)	IL PN BK DI8 DO4 2TX-PAC	2703994	1
INTERBUS	-	1.25 A	48.8 mm	-25 °C ... 55 °C	IBS IL 24 BK-T/U-PAC	2861580	1
INTERBUS	-	1.25 A	48.8 mm	-25 °C ... 55 °C	IL IB BK-PAC	2863070	1
Modbus/TCP (UDP)	4	0.98 A	80 mm	-25 °C ... 55 °C	IL ETH BK DI8 DO4 2TX-PAC	2703981	1

Inline Block IO PROFINET

This Inline Block IO module can be directly operated in a PROFINET network. It provides 16 inputs and 16 channels that can be used as inputs or outputs. Configuration simply involves selecting an actuator or sensor connection.
The connection to Ethernet is established via RJ45 plugs. The module has two ports. Due to the integrated switch, it is possible to connect an additional module and thereby implement a line structure.

Technical data	
Fieldbus system	PROFINET
Transmission speed	10/100 Mbps (with auto negotiation)
Connection method for inputs	2, 3-wire
Connection method for outputs	2-wire
Maximum output current per channel	500 mA
Supply voltage	24 V DC
Supply current	60 mA
Width	156 mm
Ambient temperature (operation)	-25 °C ... 60 °C

Type	Order No.	Pcs. / Pkt.
ILB PN 24 DI16 DIO16-2TX	2878146	1

Inline Block IO Ethernet

This Inline Block IO module can be directly operated in an Ethernet network. It provides 16 inputs and 16 channels that can be used as inputs or outputs. Configuration simply involves selecting an actuator or sensor connection.
The connection to Ethernet is established via RJ45 plugs. The module has two ports. Due to the integrated switch, it is possible to connect an additional module and thereby implement a line structure.
The modules support the network/application protocols: BootP, http (web server), SNMP, Modbus/TCP and DDI.

Technical data	
Fieldbus system	Modbus TCP/IP
Transmission speed	10/100 Mbps (with auto negotiation)
Connection method for inputs	2, 3-wire
Number of outputs	16
Connection method for outputs	2-wire
Maximum output current per channel	500 mA
Supply voltage	24 V DC
Supply current	60 mA
Width	156 mm
Ambient temperature (operation)	-25 °C ... 60 °C

Type	Order No.	Pcs. / Pkt.
ILB ETH 24 DI16 DIO16-2TX	2832962	1

Inline Block IO INTERBUS

These Inline Block I/O modules can be coupled to the INTERBUS fieldbus system. Depending on the version of the module, they offer various combinations of inputs and outputs with 16 or 32 channels.
The remote bus is connected via the familiar Inline plugs using the spring-cage terminal method. Inline plugs are also used to connect the various supply voltages and the I/Os. All plugs are included in the scope of supply. The plugs can be coded to prevent accidental mismatching.

ILB IB 24 DI16

ILB IB 24 DI16 DO16

Common technical data	
Fieldbus system	INTERBUS
Transmission speed	500 kbps
Supply voltage	24 V DC
Ambient temperature (operation)	-25 °C ... 60 °C

Connection method for inputs	Number of outputs	Connection method for outputs	Maximum output current per channel	Supply current	Width	Type	Order No.	Pcs. / Pkt.
2, 3-wire	-	-	-	80 mA	95 mm	ILB IB 24 DI16	2862330	1
2, 3-wire	-	-	-	60 mA	156 mm	ILB IB 24 DI32	2862343	1
2, 3-wire	-	2, 3-wire	500 mA	60 mA	95 mm	ILB IB 24 DI 8 DO 8	2862372	1
2, 3-wire	-	2, 3-wire	500 mA	80 mA	156 mm	ILB IB 24 DI16 DO16	2862385	1
-	16	2, 3-wire	500 mA	80 mA	95 mm	ILB IB 24 DO16	2862356	1
-	32	2, 3-wire	500 mA	85 mA	156 mm	ILB IB 24 DO32	2862369	1

Inline Block IO PROFIBUS DP

These Inline Block IO modules can be directly connected to the PROFIBUS fieldbus system as slaves. They offer various combinations of inputs and outputs with 16 or 32 channels depending on the version of the module.
The remote bus is connected via a 9-pos. D-SUB connector, e.g. the SUBCON-PLUS-PROFIB from Phoenix Contact.

ILB PB 24 DI32

ILB PB 24 DI 8 DIO8

Common technical data	
Fieldbus system	PROFIBUS DP
Transmission speed	9.6 kbps ... 12 Mbps
Supply voltage	24 V DC
Ambient temperature (operation)	-25 °C ... 60 °C

Connection method for inputs	Number of outputs	Connection method for outputs	Maximum output current per channel	Supply current	Width	Type	Order No.	Pcs. / Pkt.
2, 3-wire	-	-	-	50 mA	156 mm	ILB PB 24 DI32	2862398	1
-	32	2, 3-wire	500 mA	70 mA	156 mm	ILB PB 24 DO32	2862408	1
2, 3-wire	-	2, 3-wire	500 mA	60 mA	95 mm	ILB PB 24 DI 8 DIO8	2863562	1
2, 3-wire	-	2, 3-wire	500 mA	70 mA	156 mm	ILB PB 24 DI16 DO16	2862411	1

24 V DC power terminals

The voltage supply of the main circuit U_M is supplied with a power terminal. This means that electrically isolated I/O circuits can be configured within an Inline station.

Common technical data	
Main circuit supply U_M	24 V DC (nominal value)
Segment supply voltage U_S	24 V DC
Width	12.2 mm
Ambient temperature (operation)	-25 °C ... 55 °C

Power supply at U_M	Power supply at U_S	Current consumption from U_L	Fuse	Type	Order No.	Pcs. / Pkt.
max. 8 A (Sum of U_M + U_S: 4 A, maximum, when used in potentially explosive areas.)	max. 8 A (Sum of U_M + U_S: 4 A, maximum, when used in potentially explosive areas.)	-	-	IB IL 24 PWR IN-PAC	2861331	1
6 A (nominal value)	6 A (nominal value)	0 A DC	SI 5 x 20 6, 300 AT (supplied as standard)	IB IL 24 PWR IN/2-F-PAC	2862136	1
4 A (nominal value)	4 A (nominal value)	max. 25 mA	SI 5 x 20 6, 300 AT (supplied as standard)	IB IL 24 PWR IN/2-F-D-PAC	2862152	1

Potential distributor terminals

24 V power supplies with electronic fusing and remote diagnostics can therefore be made available in the field, for example, with the potential distributor terminal IB IL PD 24V. However, the potential distributor terminals are also suitable for use as economical return wiring for sensor and actuator lines when using 1-conductor Inline terminals, such as IB IL 24 DI 32/HD or IB IL 24 DO 32/HD.

Common technical data	
Width	12.2 mm
Ambient temperature (operation)	-25 °C ... 55 °C

Segment supply voltage U_S	Type	Order No.	Pcs. / Pkt.
24 V DC	IB IL PD 24V-PAC	2862987	1
-	IB IL PD GND-PAC	2862990	1

Digital input terminals

The digital input terminals are designed for the connection of digital signals, such as those emitted by control switches, limit switches or proximity switches.

IB IL 24 DI 2-PAC

IB IL 24 DI 32/HD-PAC

Common technical data	
Supply voltage	24 V DC (via voltage jumper)
Ambient temperature (operation)	-25 °C ... 55 °C

Description of the inputs	Connection method	Current consumption from U_L	Width	Type	Order No.	Pcs. / Pkt.
-	2, 3, 4-wire	max. 35 mA	12.2 mm	IB IL 24 DI 2-PAC	2861221	1
-	2, 3, 4-wire	max. 35 mA	12.2 mm	IB IL 24 DI 2-NPN-PAC	2861483	1
-	2, 3-wire	max. 40 mA	12.2 mm	IB IL 24 DI 4-PAC	2861234	1
-	2, 3, 4-wire	max. 50 mA	48.8 mm	IB IL 24 DI 8-PAC	2861247	1
-	2, 3, 4-wire	max. 50 mA	48.8 mm	IB IL 24 DI 8-PAC/SN	2862932	1
-	2, 3, 4-wire	max. 50 mA	48.8 mm	IB IL 24 DI 8/T2-PAC	2862204	1
According to DIN 43864	2, 3, 4-wire	max. 50 mA	48.8 mm	IB IL DI 8/S0-PAC	2897020	1
-	1-wire	max. 30 mA DC	12.2 mm	IB IL 24 DI8/HD-PAC	2700173	1
-	2, 3-wire	max. 60 mA	48.8 mm	IB IL 24 DI 16-NPN-PAC	2863520	1
-	2, 3-wire	max. 60 mA	48.8 mm	IB IL 24 DI 16-PAC	2861250	1
-	2, 3-wire	max. 60 mA	48.8 mm	IB IL 24 DI 16-PAC/SN	2862958	1
-	1-wire	max. 90 mA	48.8 mm	IB IL 24 DI 32/HD-NPN-PAC	2878243	1
-	1-wire	max. 90 mA	48.8 mm	IB IL 24 DI 32/HD-PAC	2862835	1

Digital output terminals

The digital output terminals are designed for the connection of digital actuators, such as electromagnetic valves, contactors or optical indicators.

IB IL 24 DO 2-PAC

IB IL 24 DO 32/HD-PAC

Common technical data	
Protective circuit	Overload protection, short-circuit protection of outputs
Supply voltage	24 V DC (via voltage jumper)
Ambient temperature (operation)	-25 °C ... 55 °C

Number of outputs	Maximum output current per channel	Connection method	Current consumption from U_L	Width	Type	Order No.	Pcs. / Pkt.
2	500 mA	2, 3, 4-wire	max. 33 mA	12.2 mm	IB IL 24 DO 2-PAC	2861470	1
2	2 A	2, 3, 4-wire	max. 35 mA	12.2 mm	IB IL 24 DO 2-2A-PAC	2861263	1
2	500 mA	2, 3, 4-wire	max. 32 mA	12.2 mm	IB IL 24 DO 2-NPN-PAC	2861496	1
2	500 mA	2, 3, 4-wire	max. 40 mA	12.2 mm	IB IL 24 EDO 2-PAC	2861616	1
4	500 mA	2, 3-wire	max. 44 mA	12.2 mm	IB IL 24 DO 4-PAC	2861276	1
8	500 mA	2, 3, 4-wire	max. 60 mA	48.8 mm	IB IL 24 DO 8-PAC	2861289	1
8	500 mA	2, 3, 4-wire	max. 60 mA	48.8 mm	IB IL 24 DO 8-PAC/SN	2862945	1
8	1 A	2, 3, 4-wire	max. 60 mA	48.8 mm	IB IL 24 DO 8-NPN-PAC	2863546	1
8	2 A	2, 3, 4-wire	max. 60 mA	48.8 mm	IB IL 24 DO 8-2A-PAC	2861603	1
8	500 mA	1-wire	max. 45 mA	12.2 mm	IB IL 24 DO8/HD-PAC	2700172	1
16	500 mA	2, 3-wire	max. 90 mA	48.8 mm	IB IL 24 DO 16-PAC	2861292	1
16	500 mA	2, 3-wire	max. 90 mA	48.8 mm	IB IL 24 DO 16-PAC/SN	2862961	1
32	500 mA	1-wire	max. 140 mA	48.8 mm	IB IL 24 DO 32/HD-NPN-PAC	2878340	1
32	500 mA	1-wire	max. 140 mA	48.8 mm	IB IL 24 DO 32/HD-PAC	2862822	1

Relay terminals

Inline relay terminals can be used to switch any I/O voltage up to a maximum of 230 V AC.
Differing relay contact materials ensure low contact resistance for small loads and lamp loads in the ...W versions.
The IB IL 24/48 DOR 2/W-PAC module is a relay module for small signals.

IB IL 24/48 DOR 2/W-PAC

IB IL 24/230 DOR4/W-PAC

Common technical data	
Connection method	Floating SPDT relay contact
Supply voltage	24 V DC (nominal value)
Ambient temperature (operation)	-25 °C ... 55 °C

Number of outputs	Maximum output current per channel	Switching voltage	Current consumption from U_L	Width	Type	Order No.	Pcs. / Pkt.
2	2 A	5 V DC ... 48 V DC	max. 30 mA	12.2 mm	IB IL 24/48 DOR 2/W-PAC	2863119	1
1	3 A	5 V DC ... 250 V DC	max. 60 mA	12.2 mm	IB IL 24/230 DOR1/W-PAC	2861881	1
1	2.6 A	5 V DC ... 250 V DC	max. 60 mA	12.2 mm	IB IL 24/230 DOR1/W-PC-PAC	2862178	1
4	10 A	5 V DC ... 250 V DC	max. 34 mA	48.8 mm	IB IL 24/230 DOR4/HC-PAC	2897716	1
4	3 A	5 V DC ... 250 V DC	max. 187 mA	48.8 mm	IB IL 24/230 DOR4/W-PAC	2861878	1
4	3 A	5 V DC ... 250 V DC	max. 187 mA	48.8 mm	IB IL 24/230 DOR4/W-PC-PAC	2862181	1

Accessories	Type	Order No.	Pcs. / Pkt.
Inline distance terminal	IB IL DOR LV-SET-PAC	2861645	1

Analog input terminals

The Inline analog input terminals are suitable for connecting conventional sensors for the acquisition of current and voltage signals.
The ...AI 8/SF and the ...AI 8/IS module operate in process data multiplex mode.
The IB IL AI 4/EF-PAC module has four differential signal inputs and the IB IL AI 2-HART-PAC is used to connect HART-compatible sensors.

IB IL AI 2/SF-PAC

IB IL AI 4/EF-PAC

Common technical data	
I/O supply voltage U_{ANA}	24 V DC
Ambient temperature (operation)	-25 °C ... 55 °C

Number of inputs	Connection method of the inputs	Input range voltage	Input range current	Measured value resolution	Width	Type	Order No.	Pcs. / Pkt.
max. 2 (single ended)	2-wire (shielded)	0 V ... 10 V -10 V ... 10 V	0 mA ... 20 mA 4 mA ... 20 mA -20 mA ... 20 mA	16 bits (15 bits + sign bit)	12.2 mm	IB IL AI 2/SF-PAC	2861302	1
max. 2 (differential inputs, current)	2-wire (shielded)	-	4 mA ... 20 mA 0 mA ... 25 mA	16 bits (15 bits + sign bit)	48.8 mm	IB IL AI 2-HART-PAC	2862149	1
4 (differential inputs, current)	2-wire	-	0 mA ... 20 mA 4 mA ... 20 mA	13 bits (12 bits + sign bit)	12.2 mm	IB IL AI 4/I-PAC	2700458	1
4 (differential inputs, voltage)	2-wire	0 V ... 10 V -10 V ... 10 V	-	12 bits (11 bits + sign bit)	12.2 mm	IB IL AI 4/U-PAC	2700459	1
max. 4 (Differential inputs, voltage or current can be chosen separately)	2, 3-wire	0 V ... 5 V -5 V ... 5 V 0 V ... 10 V -10 V ... 10 V	0 mA ... 20 mA 4 mA ... 20 mA -20 mA ... 20 mA	16 bits (15 bits + sign bit)	48.8 mm	IB IL AI 4/EF-PAC	2878447	1
max. 8 (single ended)	2-wire (shielded)	-	0 mA ... 20 mA 4 mA ... 20 mA -20 mA ... 20 mA 0 mA ... 40 mA -40 mA ... 40 mA	16 bits (15 bits + sign bit)	48.8 mm	IB IL AI 8/IS-PAC	2861661	1
max. 8 (single ended)	2-wire (shielded)	0 V ... 5 V -5 V ... 5 V 0 V ... 10 V -10 V ... 10 V 0 V ... 25 V -25 V ... 25 V 0 V ... 50 V	0 mA ... 20 mA 4 mA ... 20 mA -20 mA ... 20 mA 0 mA ... 40 mA -40 mA ... 40 mA	16 bits (15 bits + sign bit)	48.8 mm	IB IL AI 8/SF-PAC	2861412	1

Temperature measurement terminals (thermocouple)

This terminal can be used to acquire signals from standard thermocouples.
13 different thermocouple types according to DIN EN 60584-1 and DIN 43710 are supported.

Technical data	
Number of inputs	2
I/O supply voltage U_{ANA}	24 V DC
Connection method for inputs	2-wire (shielded)
Sensor types that can be used	U, T, L, J, E, K, N, S, R, B, C, W, HK
Width	12.2 mm
Ambient temperature (operation)	-25 °C ... 55 °C

Type	Order No.	Pcs. / Pkt.
IB IL TEMP 2 UTH-PAC	2861386	1

Temperature measurement terminals (resistance transducer)

The Inline RTD modules are input modules for resistive temperature sensors and linear resistors. These terminals support the platinum and nickel sensors as per the DIN standard and the SAMA guideline. Sensors Cu10, Cu50, Cu53 as well as KTY81 and KTY84 are also supported. The connection can be established in 2, 3, or 4-wire technology.

IB IL TEMP 2 RTD-PAC

IB IL TEMP 4/8 RTD-PAC

Common technical data	
I/O supply voltage U_{ANA}	24 V DC
Ambient temperature (operation)	-25 °C ... 55 °C

Number of inputs	Connection method for inputs	Sensor types that can be used	Width	Type	Order No.	Pcs. / Pkt.
2	2, 3-wire	Pt, Ni, KTY, Cu sensors, linear resistors	12.2 mm	IB IL TEMP 2 RTD-PAC	2861328	1
8	2, 3-wire	Pt, Ni, KTY, Cu sensors, linear resistors	48.8 mm	IB IL TEMP 4/8 RTD-PAC	2863915	1
8	4-wire	Pt, Ni, KTY sensors, linear resistors	48.8 mm	IB IL TEMP 4/8 RTD/EF-PAC	2897402	1

Analog output terminals

The Inline Analog output terminals are used in applications in which analog actuators are to be controlled. With these terminals, common standard current and voltage output ranges can be configured individually and according to the specific channel.

IB IL AO 1/SF-PAC

IB IL AO 4/8/U/BP-PAC

Common technical data	
I/O supply voltage U_{ANA}	24 V DC
Ambient temperature (operation)	-25 °C ... 55 °C

Number of outputs	Connection method for outputs	Voltage output signal	Current output signal	Width	Type	Order No.	Pcs. / Pkt.
1	2-wire (shielded)	0 V ... 10 V	0 mA ... 20 mA 4 mA ... 20 mA	24.4 mm	IB IL AO 1/SF-PAC	2861315	1
1	2-wire (shielded)	0 V ... 10 V	-	12.2 mm	IB IL AO 1/U/SF-PAC	2861399	1
2	2-wire (shielded)	0 V ... 10 V	0 mA ... 20 mA 4 mA ... 20 mA	48.8 mm	IB IL AO 2/SF-PAC	2863083	1
2	2-wire (shielded)	0 V ... 10 V -10 V ... 10 V	-	12.2 mm	IB IL AO 2/U/BP-PAC	2861467	1
2	2-wire (shielded, twisted pair)	0 V ... 10 V -10 V ... 10 V	0 mA ... 20 mA 4 mA ... 20 mA -20 mA ... 20 mA	12.2 mm	IB IL AO 2/UI-PAC	2700775	1
8	2, 3-wire	0 V ... 10 V -10 V ... 10 V 0 V ... 5 V -5 V ... 5 V	-	48.8 mm	IB IL AO 4/8/U/BP-PAC	2878036	1

Fieldline Modular extension

The Inline branch terminals enable connection of Fieldline Modular devices to an Inline station.
The IB IL 24 FLMPAC branch terminal enables the direct connection of Fieldline Modular M8 and M12 local bus devices to an Inline Modular station. In contrast to the IB IL 24 FLM-PAC, the IB IL 24 FLM MULTI-PAC branch terminal enables the integration of several Fieldline Modular M8 local buses into an Inline station.

IB IL 24 FLM-PAC

IB IL 24 FLM MULTI-PAC

Common technical data	
Width	12.2 mm
Ambient temperature (operation)	-25 °C ... 55 °C

Fieldbus system	Type	Order No.	Pcs. / Pkt.
Fieldline Modular M8 + M12 local bus	IB IL 24 FLM-PAC	2736903	1
Fieldline Modular M8 local bus	IB IL 24 FLM MULTI-PAC	2737009	1

Communication terminals

The communication terminals can be used to integrate devices with a serial interface, such as barcode reading devices, printers or carts into the automation solution. Various protocol cards are already implemented, thus reducing the programming costs.

IB IL RS 232-PAC

IB IL RS 485/422-PAC

Common technical data	
Supply voltage	24 V DC (via voltage jumper)
Transmission speed	110 bps ... 38400 bps (configurable)
Input buffer	4 kbytes
Output buffer	1 kbytes
Width	24.4 mm
Ambient temperature (operation)	-25 °C ... 55 °C

Transmission type	Type	Order No.	Pcs. / Pkt.
Transparent mode, end-to-end mode, dual buffer mode, 3964R, XON/XOFF	IB IL RS 232-PAC	2861357	1
Transparent mode, end-to-end mode, dual buffer mode, 3964R, XON/XOFF	IB IL RS 232-PRO-PAC	2878722	1
Transparent mode, end-to-end mode, dual buffer mode, 3964R, XON/XOFF, Modbus RTU / ASCII	IB IL RS 485/422-PAC	2861933	1
Transparent mode, end-to-end mode, dual buffer mode, 3964R, XON/XOFF, MOVILINK protocol	IB IL RS 485/422-PRO-PAC	2863627	1

CAN master terminal

The CAN master terminal can be used to connect a lower-level CAN network. Within the Inline station, the terminal acts as a CAN master for the CAN system.
Any CAN frames with 11-bit or 29-bit identifier can be transmitted via the terminal by the PLC to all types of CAN devices, regardless of the CAN protocol present there.

Technical data	
Supply voltage	24 V DC (via voltage jumper)
Interfaces	Inline local bus CAN bus
Connection method	Inline shield plug
Width	12.2 mm
Ambient temperature (operation)	-25 °C ... 55 °C

	Type	Order No.	Pcs. / Pkt.
	IB IL CAN-MA-PAC	2700196	1

PROFIBUS terminal

The PROFIBUS terminal enables connection of PROFIBUS modules to a PC Worx controller via INTERBUS or PROFINET.
The terminal supports both the master and slave functions.

Technical data	
Supply voltage	24 V DC (via voltage jumper)
Transmission speed	9.6 kbps ... 12 Mbps
Interfaces	Inline local bus PROFIBUS DP V0 master/slave
Connection method	9-pos. D-SUB socket
Width	48.8 mm
Ambient temperature (operation)	-25 °C ... 55 °C

Type	Order No.	Pcs. / Pkt.
IB IL PB MA-PAC	2700630	1

Marking labels

The IB IL FIELD...marking labels can be used to label Inline modules conveniently.

Common technical data	
Certification	
Height	74.15 mm

IB IL FIELD 2

IB IL FIELD 8

Width	Type	Order No.	Pcs. / Pkt.
12 mm	IB IL FIELD 2	2727501	10
48.8 mm	IB IL FIELD 8	2727515	10

Coding profile

The IL CP coding profile can be used to establish coding between the Inline plug and the electronics module.

Type	Order No.	Pcs. / Pkt.
IL CP	2742683	100

Industrial communication technology

The main arteries of communication networks in modern systems consist of various types of serial data link.

Phoenix Contact offers the right solution for the level of immunity to interference, range or speed required:
– Copper transmission
– Fiber optic transmission
– Ethernet networks
– Remote communication
– Fast connection technology
– Wireless data communication

Modular repeater for PROFIBUS up to 12 Mbps, 2 channels

High-quality 4-way isolation, bit retiming and start delimiter monitoring.

Technical data	
Certification	/ Ex: / Applied for: cUL / UL
Connection method	D-SUB-9 socket
Connection cross section/AWG	0.2 mm² ... 2.5 mm² / 24 - 14
Copper interface	PROFIBUS acc. to IEC 61158, RS-485 2-wire
Data format/encoding	UART (11 Bit, NRZ)
Transmission length	max. 1200 m (depending on transmission speed and cable type)
Test voltage	1.5 kV
Ambient temperature (operation)	-20 °C ... 60 °C
Dimensions W / H / D	35 mm / 99 mm / 105 mm

	Type	Order No.	Pcs. / Pkt.
	PSI-REP-PROFIBUS/12MB	2708863	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (optional), for routing through the supply voltage and data signal, two required per device	ME 17,5 TBUS 1,5/ 5-ST-3,81 GN	2709561	10
Power supply, primary-switched	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1
PROFIBUS connector, angled, up to 12 Mbps, integrated termination resistor that can be connected externally, with screw connection, 9-pos., pin, pin assignment 3, 5, 6, 8	SUBCON-PLUS-PROFIB/SC2	2708232	1
PROFIBUS connector, angled with second D9-SUB socket (PG), up to 12 Mbps, integrated termination resistor that can be connected externally, with screw connection, 9-pos., pin, pin assignment 3, 5, 6, 8	SUBCON-PLUS-PROFIB/PG/SC2	2708245	1
PROFIBUS connector, axial cable entry, up to 12 Mbps, integrated termination resistor that can be connected externally, with screw connection, 9-pos., pin, pin assignment 3, 5, 6, 8	SUBCON-PLUS-PROFIB/AX/SC	2744380	1
PROFIBUS connector, angled, up to 12 Mbps, integrated termination resistor that can be connected externally, with IDC connection technology, 9-pos., pin, pin assignment 3, 5, 6, 8	SUBCON-PLUS-PROFIB/90/IDC	2313672	1
PROFIBUS connector, angled with second D9-SUB socket (PG), up to 12 Mbps, integrated termination resistor that can be connected externally, with IDC connection technology, 9-pos., pin , pin assignment 3, 5, 6, 8	SUBCON-PLUS-PROFIB/90/PG/IDC	2313685	1
PROFIBUS cable, type Fast Connect, up to 12 Mbps, for fixed installation (02YSY (ST)CY 1X2X22 AWG) (Length in meters as per customer specifications)	PSM-CABLE-PROFIB/FC	2744652	1
Quick stripping tool for PROFIBUS cable, type Fast Connect	PSM-STRIP-FC/PROFIB	2744623	1

Modular repeater for RS-485 2-wire systems

High-quality 4-way isolation and bit retiming.

Technical data	
Certification	/ Ex: / Applied for: cUL / UL
Connection method	Plug-in screw connection
Connection cross section/AWG	0.2 mm² ... 2.5 mm² / 24 - 12
Supply voltage	24 V DC ±20 %
Copper interface	RS-485 interface, in acc. with EIA/TIA-485, DIN 66259-4/RS-485 2-wire
Data format/encoding	UART (11/10 bit switchable; NRZ)
Transmission speed	Can be set manually: 4.8/9.6/19.2/38.4/57.6/75/93.75/115.2/136/187.5/375/500 Kbps
Transmission length	max. 1200 m (depending on transmission speed, bus system and cable type)
Test voltage	1.5 kV
Ambient temperature (operation)	-20 °C ... 60 °C
Dimensions W / H / D	35 mm / 99 mm / 105 mm

	Type	Order No.	Pcs. / Pkt.
	PSI-REP-RS485W2	2313096	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (optional), for routing through the supply voltage and data signal, two required per device	ME 17,5 TBUS 1,5/ 5-ST-3,81 GN	2709561	10
Power supply, primary-switched	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1

Fiber optic converter for PROFIBUS up to 12 Mbps, for polymer/HCS fiber

Transmission lengths for termination device (E) and T-coupler (T):
70 m with polymer fiber or 400 m with HCS/PCF fiber.

Common technical data	
Certification	/ Ex:
Supply voltage	18 V DC ... 30 V DC
Nominal current consumption	100 mA (24 V DC)
Copper interface	PROFIBUS acc. to IEC 61158, RS-485 2-wire, half duplex, automatic control
Data format/encoding	UART (11 Bit, NRZ)
Transmission speed	≤ 12 Mbps
Transmission length	≤ 1200 m (depending on the data rate, with shielded, twisted pair data cable)
Connection method	D-SUB-9 socket
Connection	F-SMA
Wavelength	660 nm
Transmission length including 3 dB system reserve	70 m (With F-P 980/1000 230 dB/km with quick mounting connector) 400 m (With F-K 200/230 10 dB/km with quick mounting connector)
Ambient temperature (operation)	-20 °C ... 60 °C
Dimensions W / H / D	35 mm / 99 mm / 106 mm

Type	Order No.	Pcs. / Pkt.
PSI-MOS-PROFIB/FO 660 E	2708290	1
PSI-MOS-PROFIB/FO 660 T	2708287	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (optional), for routing through the supply voltage and data signal, two required per device	ME 17,5 TBUS 1,5/ 5-ST-3,81 GN	2709561	10
DIN rail connector, (optional), for routing through the supply voltage, two required per device	ME 17,5 TBUS 1,5/PP000-3,81 BK	2890014	10
Power supply, primary-switched	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1

Fiber optic converter for PROFIBUS up to 12 Mbps, for HCS/fiberglass (MM)

Transmission lengths for termination device (E) and T-coupler (T):
800 m with HCS/PCF fiber or 3300 m with multi-mode fiberglass.

Common technical data	
Certification	/ Ex:
Supply voltage	18 V DC ... 30 V DC
Nominal current consumption	120 mA (24 V DC)
Copper interface	PROFIBUS acc. to IEC 61158, RS-485 2-wire, half duplex, automatic control
Data format/encoding	UART (11 Bit, NRZ)
Transmission speed	≤ 12 Mbps
Transmission length	≤ 1200 m (depending on the data rate, with shielded, twisted pair data cable)
Connection method	D-SUB-9 socket
Connection	B-FOC (ST®)
Wavelength	850 nm
Transmission length including 3 dB system reserve	2600 m (with F-G 50/125 2.5 dB/km) 3300 m (with F-G 62.5/125 3.0 dB/km) 800 m (with F-K 200/230 10 dB/km with quick mounting connector)
Ambient temperature (operation)	-20 °C ... 60 °C
Dimensions W / H / D	35 mm / 99 mm / 106 mm

Type	Order No.	Pcs. / Pkt.
PSI-MOS-PROFIB/FO 850 E	2708274	1
PSI-MOS-PROFIB/FO 850 T	2708261	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (optional), for routing through the supply voltage and data signal, two required per device	ME 17,5 TBUS 1,5/ 5-ST-3,81 GN	2709561	10
DIN rail connector, (optional), for routing through the supply voltage, two required per device	ME 17,5 TBUS 1,5/PP000-3,81 BK	2890014	10
Power supply, primary-switched	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1

Fiber optic converter for RS-485 2-wire bus systems, for polymer/HCS fiber

Transmission lengths for termination device (E) and T-coupler (T):
100 m with polymer fiber or 800 m with HCS/PCF fiber.

Common technical data	
Certification	/ Ex:
Supply voltage	18 V DC ... 30 V DC
Nominal current consumption	100 mA (24 V DC)
Copper interface	RS-485 interface, 2-wire
Data format/encoding	UART (11/10 bit switchable; NRZ), slip-tolerant
Termination resistor	390 Ω (Can be connected)
Transmission speed	4.8/9.6/19.2/38.4/57.6/75/93.75/115.2/136/187.5/375/500
Transmission length	≤ 1200 m (depending on the data rate, with shielded, twisted data cable)
Connection method	Plug-in screw connection
Connection	F-SMA
Wavelength	660 nm
Transmission length including 3 dB system reserve	100 m (With F-P 980/1000 230 dB/km with quick mounting connector) 800 m (With F-K 200/230 10 dB/km with quick mounting connector)
Ambient temperature (operation)	-20 °C ... 60 °C
Dimensions W / H / D	35 mm / 99 mm / 105 mm

	Type	Order No.	Pcs. / Pkt.
	PSI-MOS-RS485W2/FO 660 E	2708313	1
	PSI-MOS-RS485W2/FO 660 T	2708300	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (optional), for routing through the supply voltage and data signal, two required per device	ME 17,5 TBUS 1,5/ 5-ST-3,81 GN	2709561	10
DIN rail connector, (optional), for routing through the supply voltage, two required per device	ME 17,5 TBUS 1,5/PP000-3,81 BK	2890014	10
Power supply, primary-switched	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1

Fiber optic converter for RS-485 2-wire bus systems, for HCS/fiberglass (MM)

Transmission lengths for termination device (E) and T-coupler (T):
2400 m with HCS/PCF fiber or 3800 m with multi-mode fiberglass.

Common technical data	
Certification	/ Ex:
Supply voltage	18 V DC ... 30 V DC
Nominal current consumption	120 mA (24 V DC)
Copper interface	RS-485 interface, 2-wire
Data format/encoding	UART (11/10 bit switchable; NRZ), slip-tolerant
Termination resistor	390 Ω (Can be connected)
Transmission speed	4.8/9.6/19.2/38.4/57.6/75/93.75/115.2/136/187.5/375/500
Transmission length	≤ 1200 m (depending on the data rate, with shielded, twisted data cable)
Connection method	Plug-in screw connection
Connection	B-FOC (ST®)
Wavelength	850 nm
Transmission length including 3 dB system reserve	2800 m (with F-K 200/230 8 dB/km with quick mounting connector) 4200 m (with F-G 50/125 2.5 dB/km) 3300 m (with F-G 62,5/125 3.0 dB/km)
Ambient temperature (operation)	-20 °C ... 60 °C
Dimensions W / H / D	35 mm / 99 mm / 105 mm

	Type	Order No.	Pcs. / Pkt.
	PSI-MOS-RS485W2/FO 850 E	2708339	1
	PSI-MOS-RS485W2/FO 850 T	2708326	1

Accessories	Type	Order No.	Pcs. / Pkt.
DIN rail connector (optional), for routing through the supply voltage and data signal, two required per device	ME 17,5 TBUS 1,5/ 5-ST-3,81 GN	2709561	10
DIN rail connector, (optional), for routing through the supply voltage, two required per device	ME 17,5 TBUS 1,5/PP000-3,81 BK	2890014	10
Power supply, primary-switched	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1

FL COMSERVER BASIC serial device server for 10/100Base-T(X)

For implementing serial interfaces in Ethernet, COM port redirector software, and additional software supplied as standard, supports TCP and UDP.

Technical data	
Certification	/ Ex: / Applied for: cUL / UL
Connection method	RJ45 socket, shielded
Supply voltage	24 V AC/DC ±20 % (via plug-in COMBICON screw terminal block)
Copper interface	Ethernet interface, 10/100Base-T(X) according to IEEE 802.3u
Transmission speed	10/100 Mbps, auto negotiation
Transmission length	≤ 100 m (shielded twisted pair)
Ambient temperature (operation)	-25 °C ... 60 °C
Dimensions W / H / D	22.5 mm / 99 mm / 116 mm

	Type	Order No.	Pcs. / Pkt.
	FL COMSERVER BASIC 232/422/485	2313478	1

Accessories	Type	Order No.	Pcs. / Pkt.
RS-232 D-SUB cable, 9-pos. socket to 9-pos. socket, length: 2 m	PSM-KA9SUB9/BB/2METER	2799474	1
RS-232 D-SUB cable, 9-pos. socket to 25-pos. socket, length: 2 m	PSM-KA 9 SUB 25/BB/2METER	2761059	1
D-SUB plug, with screw connection, 9-pos., socket	SUBCON 9/F-SH	2761499	1
D-SUB plug, with screw connection, 9-pos., pin	SUBCON 9/M-SH	2761509	1
RS-232 zero modem plug, 9-pos. socket to 9-pos. plug	PSM-AD-D9-NULLMODEM	2708753	1
DIN rail connector, for bridging the supply voltage (19.2...30 V DC)	ME 22,5 TBUS 1,5/ 5-ST-3,81 GN	2707437	50
Power supply, primary-switched	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1

FL COMSERVER UNI serial device server for 10/100Base-T(X)

For implementing serial interfaces in Ethernet, the COM port redirector software, and additional software supplied as standard, supports TCP, UDP, Modbus-TCP/RTU/ASCII.

Technical data	
Certification	/ Ex: / Applied for: cUL / UL
Connection method	RJ45 socket, shielded
Supply voltage	24 V AC/DC ±20 % (via plug-in COMBICON screw terminal block)
Copper interface	Ethernet interface, 10/100Base-T(X) according to IEEE 802.3u
Transmission speed	10/100 Mbps, auto negotiation
Transmission length	≤ 100 m (shielded twisted pair)
Ambient temperature (operation)	-25 °C ... 60 °C
Dimensions W / H / D	22.5 mm / 99 mm / 116 mm

	Type	Order No.	Pcs. / Pkt.
	FL COMSERVER UNI 232/422/485	2313452	1

Accessories	Type	Order No.	Pcs. / Pkt.
RS-232 D-SUB cable, 9-pos. socket to 9-pos. socket, length: 2 m	PSM-KA9SUB9/BB/2METER	2799474	1
RS-232 D-SUB cable, 9-pos. socket to 25-pos. socket, length: 2 m	PSM-KA 9 SUB 25/BB/2METER	2761059	1
D-SUB plug, with screw connection, 9-pos., socket	SUBCON 9/F-SH	2761499	1
D-SUB plug, with screw connection, 9-pos., pin	SUBCON 9/M-SH	2761509	1
DIN rail connector, for bridging the supply voltage (19.2...30 V DC)	ME 22,5 TBUS 1,5/ 5-ST-3,81 GN	2707437	50
Power supply, primary-switched	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1

4 kV Ethernet ISOLATOR for electrical isolation

Network isolator for electrical isolation in Ethernet networks. For protection against potential differences of up to 4 kV

Common technical data	
Certification	
Connection method	RJ45 socket, shielded
Transmission length	≤ 100 m (Total length across both ports (depending on data rate and cable used))
Ambient temperature (operation)	-25 °C ... 75 °C
Dimensions W / H / D	22.5 mm / 99 mm / 92 mm

Copper interface	Transmission speed	Type	Order No.	Pcs. / Pkt.
Ethernet interface, 10/100/1000Base-T(X) according to IEEE 802.3u	10/100/1000 Mbps	FL ISOLATOR 1000-RJ/RJ	2313915	1
Ethernet interface, 10/100Base-T(X) according to IEEE 802.3u	10/100 Mbps	FL ISOLATOR 100-RJ/RJ	2313931	1
Ethernet interface, 10/100Base-T(X) according to IEEE 802.3u	10/100 Mbps	FL ISOLATOR 100-RJ/SC	2313928	1

Passive patch panel for the DIN rail - 10/100 Mbps

Mini patch panel with an RJ45 socket to 4 screw connection terminal blocks (1, 2, 3, 6 assignment), CAT5e, safe shield connection to ground potential.

Technical data	
Certification	
Connection method	Screw connection
Connection cross section/AWG	0.14 mm² ... 1 mm² / 26 - 16
Copper interface	Ethernet interface, 10/100Base-T(X) according to IEEE 802.3u
Cable impedance	100 Ω
Transmission speed	10/100 Mbps
Connecting cable	twisted pair, shielded, CAT5 or better
Transmission length	100 m (including patch cables)
Insertion/withdrawal cycles	≤ 2500
Ambient temperature (operation)	-25 °C ... 70 °C
Dimensions W / H / D	25 mm / 90 mm / 52 mm

Type	Order No.	Pcs. / Pkt.
FL CAT5 TERMINAL BOX	2744610	1

Passive patch panel for the DIN rail - 10/100/1000 Mbps

Mini patch panel with an RJ45 socket to various connection options (8-pos., 1:1 assignment), CAT5e, safe shield connection to ground potential.

FL-PP-RJ45-SCC

FL-PP-RJ45/RJ45

Common technical data	
Copper interface	Ethernet interface, 10/100/1000Base-T(X) according to IEEE 802.3u
Cable impedance	100 Ω
Connecting cable	twisted pair, shielded, CAT5 or better
Insertion/withdrawal cycles	≤ 2500
Ambient temperature (operation)	-25 °C ... 70 °C
Dimensions W / H / D	29 mm / 90 mm / 53 mm

Connection method	Connection cross section/AWG	Transmission speed	Transmission length	Type	Order No.	Pcs. / Pkt.
Spring-cage conn.	0.2 mm² ... 1 mm² / 24 - 16	10/100/1000 Mbps	100 m (including patch cables)	FL-PP-RJ45-SCC	2901642	1
RJ45 CAT5e	-	-	-	FL-PP-RJ45-SC	2901643	1
RJ45 CAT5e	-	10/100/1000 Mbps	100 m (including patch cables)	FL-PP-RJ45/RJ45	2901646	1

PSI-DATA/BASIC industrial analog modem for dial-up operation

Dial-up modem for remote maintenance of systems with RS-232 interface, supplied as standard: modem, CD with configuration software, user manual and RJ12/RJ12 cable.

Technical data	
Certification	cULus / Ex: cULus
Connection method	D-SUB-9 plug
Supply voltage	10 V DC ... 30 V DC (via plug-in COMBICON screw terminal block)
Supply voltage	24 V DC ±5 % (as an alternative or redundant, via backplane bus contact and system current supply)
Nominal current consumption	< 100 mA (24 V DC)
Copper interface	RS-232 interface according to ITU-T V.28, EIA/TIA-232, DIN 66259-1
Data format/encoding	Serial asynchronous UART/NRZ, 7/8 data, 1/2 stop, 1 parity, 10/11-bit character length
Transmission speed	Automatic data rate detection 300, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps
Test voltage	1500 V
Ambient temperature (operation)	0 °C ... 55 °C
Dimensions W / H / D	22.5 mm / 99 mm / 114.5 mm

Type	Order No.	Pcs. / Pkt.
PSI-DATA/BASIC-MODEM/RS232	2313067	1

Accessories	Type	Order No.	Pcs. / Pkt.
Power supply, primary-switched	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1
DIN rail connector, for bridging the supply voltage (19.2...30 V DC)	ME 22,5 TBUS 1,5/ 5-ST-3,81 GN	2707437	50
MPI adapter for coupling to the programming interface of a Siemens SIMATIC® S7-300/400 controller	PSI-MPI/RS232-PC	2313148	1
RS-232 D-SUB cable, 9-pos. socket to 9-pos. socket, length: 2 m	PSM-KA9SUB9/BB/2METER	2799474	1
RS-232 D-SUB cable, 9-pos. socket to 9-pos. socket, length: 0.5 m	PSM-KA9SUB9/BB/0,5METER	2708520	1
Surge protection for analog telecommunications interfaces	DT-TELE-RJ45	2882925	1

D-SUB plugs for screw connection for PROFIBUS, up to 12 Mbps

Angled or axial cable entry, with or without programming interface, integrated termination resistor that can be connected externally, reversible cable entry, full-metal housing.

SUBCON-PLUS-PROFIB/SC2

SUBCON-PLUS-PROFIB/AX/SC

Common technical data	
No. of pos.	9
Connection type, connector	Pin
Pin assignment	3, 5, 6, 8
Nominal current	100 mA
Connection cross section / AWG	0.14 mm² ... 1.5 mm² / 26 - 16
Cable cross section (max./min.)	7.6 mm / 8.4 mm
Ambient temperature range	-20 °C ... 75 °C
SUBCON fixing	4-40 UNC

Certification	Nominal voltage	Dimensions W / H / D	Type	Order No.	Pcs. / Pkt.
cULus	50 V	16.6 mm / 39.4 mm / 58 mm	SUBCON-PLUS-PROFIB/SC2	2708232	1
cULus	50 V	16.6 mm / 39.4 mm / 58 mm	SUBCON-PLUS-PROFIB/PG/SC2	2708245	1
cULus	50 V	17 mm / 31.5 mm / 58.2 mm	SUBCON-PLUS-PROFIB/AX/SC	2744380	1
cULus	5 V AC/DC	16.8 mm / 34.8 mm / 72 mm	SUBCON-PLUS-PROFIB/90/SC	2313698	1
cULus	5 V AC/DC	16.8 mm / 34.8 mm / 72 mm	SUBCON-PLUS-PROFIB/90/PG/SC	2313708	1

Accessories	Type	Order No.	Pcs. / Pkt.
PROFIBUS cable, type Fast Connect, up to 12 Mbps, for fixed installation (02YSY (ST)CY 1X2X22 AWG) (Length in meters as per customer specifications)	PSM-CABLE-PROFIB/FC	2744652	1
Quick stripping tool for PROFIBUS cable, type Fast Connect	PSM-STRIP-FC/PROFIB	2744623	1
Spare knife block for quick stripping tool	PSM-STRIP-KNIFEBLOCK	2744636	1

D-SUB plugs with IDC connection for PROFIBUS, up to 12 Mbps

90° angled cable entry, with or without programming interface, integrated termination resistor that can be connected externally, full-metal housing, for use on PROFIBUS cables with solid copper conductors.

SUBCON-PLUS-PROFIB/90/IDC

SUBCON-PLUS-PROFIB/90/PG/IDC

Common technical data	
Certification	cULus
No. of pos.	9
Connection type, connector	Pin
Pin assignment	3, 5, 6, 8
Nominal voltage	5 V AC/DC
Nominal current	100 mA
Connection cross section / AWG	0.32 mm² ... 1 mm² / 22 - 18
Cable cross section (max./min.)	7.6 mm / 8.4 mm
Ambient temperature range	-20 °C ... 75 °C
SUBCON fixing	4-40 UNC
Dimensions W / H / D	16.8 mm / 34.8 mm / 72 mm

Type	Order No.	Pcs. / Pkt.
SUBCON-PLUS-PROFIB/90/IDC	2313672	1
SUBCON-PLUS-PROFIB/90/PG/IDC	2313685	1

D-SUB plugs with screw connection for CAN

35° angled or axial cable entry, with or without programming interface, integrated termination resistor that can be connected externally, reversible cable entry, full-metal housing.

SUBCON-PLUS-CAN/SC2

SUBCON-PLUS-CAN/AX

Common technical data	
No. of pos.	9
Connection type, connector	Socket
Nominal voltage	50 V
Nominal current	100 mA
Cable cross section (max./min.)	7.6 mm / 8.4 mm
Ambient temperature range	-20 °C ... 75 °C
Termination resistor	120 Ω (Can be connected externally)
SUBCON fixing	4-40 UNC

Certification	Pin assignment	Connection cross section / AWG	Dimensions W / H / D	Type	Order No.	Pcs. / Pkt.
cULus	2, 3, 7, 9	0.14 mm² ... 1.5 mm² / 26 - 16	16.6 mm / 39.4 mm / 58 mm	SUBCON-PLUS-CAN/SC2	2708999	1
cULus	2, 3, 6, 7, 9	0.14 mm² ... 1.5 mm² / 26 - 16	16.6 mm / 39.4 mm / 58 mm	SUBCON-PLUS-CAN/PG	2708119	1
-	2, 3, 7	0.14 mm² ... 0.5 mm² / 26 - 20	17 mm / 31.5 mm / 58.2 mm	SUBCON-PLUS-CAN/AX	2306566	1

Wireless data communication - Radioline wireless system

Radioline is the new wireless system for large systems and networks. Special features include extremely easy assignment of inputs and outputs by simply turning the thumbwheel - without any programming.

Radioline transmits I/O signals as well as serial data and is therefore very versatile. In addition, you can implement various network structures: from a simple point-to-point connection to complex mesh networks.

Thanks to the latest Trusted Wireless technology, Radioline is the ideal choice for industrial use.

Radioline wireless transceiver, 2.4 GHz with Trusted Wireless 2.0

2400 MHz wireless transceiver with RS-232/RS-485 interface, can be extended with I/O extension modules. It can be used as a master, slave or repeater/slave. For wireless networks (point-to-point, star, mesh) with up to 250 devices.

Technical data	
Certification	cULus / Ex: Ex
Frequency range	2.4002 GHz ... 2.4785 GHz
Transmission power	max. 100 mW (Default setting, adjustable)
Security	128-bit data encryption
Antenna connection method	RSMA (female)
Analog output - description	RSSI voltage output
Analog output - number of outputs	1
Signal range	0 V ... 3 V
Digital output - description	RF link relay output
Digital output - contact type	PDT
Switching voltage	30 V AC / 60 V DC
Switching current	500 mA
Supply voltage	19.2 V DC ... 30.5 V DC
Current consumption typ./max.	max. 65 mA (@ 24 V DC, @ 25°C, stand-alone)
Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (> 55°C derating)
Connection method	Screw connection
Dimensions W / H / D	17.5 mm / 99 mm / 114.5 mm

	Type	Order No.	Pcs. / Pkt.
	RAD-2400-IFS	2901541	1

Accessories	Type	Order No.	Pcs. / Pkt.
Configuration memory, for network addressing, RF band 3	RAD-CONF-RF3	2902814	1
Configuration memory, for network addressing, RF band 5	RAD-CONF-RF5	2902815	1
Configuration memory, for network addressing, RF band 7	RAD-CONF-RF7	2902816	1
USB cable, for diagnostics and extended configuration	RAD-CABLE-USB	2903447	1

I/O extension module - analog/digital I/O module

Extension module for Radioline wireless system, with 2 digital inputs/outputs (0 ... 250 V AC/DC) and 1 analog input (0/4 ... 20 mA) and output (0/4 ... 20 mA, 0 ... 10 V)

Technical data	
Certification	cULus / Ex: Ex
Analog input - number of inputs	1
Signal range	0 mA ... 20 mA (can be set via DIP switches)
Input resistance	< 70 Ω
Digital input - number of inputs	2
Switching level 1 signal ("H")	10 V AC/DC ... 50 V AC/DC (Low-voltage input) 50 V AC/DC ... 250 V AC/DC (High-voltage input)
Switching level 0 signal ("L")	0 V AC/DC ... 4 V AC/DC (Low-voltage input) 0 V AC/DC ... 20 V AC/DC (High-voltage input)
Analog output - number of outputs	1
Signal range	0 mA ... 20 mA / 4 mA ... 20 mA / 0 V ... 10 V
Load R_B	≤ 500 Ω / ≥ 10 kΩ
Digital output - contact type	PDT
Switching voltage	250 V AC / 24 V DC
Supply voltage	19.2 V DC ... 30.5 V DC (T-connector)
Current consumption typ./max.	95 mA
Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (> 55°C derating)
Dimensions W / H / D	17.5 mm / 99 mm / 114.5 mm

	Type	Order No.	Pcs. / Pkt.
	RAD-DAIO6-IFS	2901533	1

Accessories	Type	Order No.	Pcs. / Pkt.
I/O extension module, 2 digital inputs/outputs and 1 analog input/output	RAD-DAIO6-IFS	2901533	1

I/O extension module - analog input module

Extension module for Radioline wireless system, with 4 analog current inputs (0/4 ... 20 mA)

Technical data	
Certification	/ Ex:
Analog input - number of inputs	4
Signal range	0 mA ... 20 mA (can be set via DIP switches)
Input resistance	< 70 Ω
Supply voltage	19.2 V DC ... 30.5 V DC (T-connector)
Current consumption typ./max.	120 mA
Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (> 55°C derating)
Dimensions W / H / D	17.5 mm / 99 mm / 114.5 mm

	Type	Order No.	Pcs. / Pkt.
	RAD-AI4-IFS	2901537	1

Accessories	Type	Order No.	Pcs. / Pkt.
I/O extension module, 4 analog current/voltage outputs	RAD-AO4-IFS	2901538	1

I/O extension module - analog output module

Extension module for Radioline wireless system, with 4 analog current/voltage outputs (0/4 ... 20 mA, 0 ... 10 V)

Technical data	
Certification	/ Ex:
Analog output - number of outputs	4
Signal range	0 mA ... 20 mA / 4 mA ... 20 mA / 0 V ... 10 V
Load R_B	≤ 500 Ω / ≥ 10 kΩ
Supply voltage	19.2 V DC ... 30.5 V DC (T-connector)
Current consumption typ./max.	115 mA
Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (> 55°C derating)
Dimensions W / H / D	17.5 mm / 99 mm / 114.5 mm

	Type	Order No.	Pcs. / Pkt.
	RAD-AO4-IFS	2901538	1

Accessories	Type	Order No.	Pcs. / Pkt.
I/O extension module, 4 analog current inputs	RAD-AI4-IFS	2901537	1

I/O extension module - digital input module

Extension module for Radioline wireless system, with 4 digital inputs (0 ... 250 V AC/DC)

Technical data	
Certification	/ Ex:
Digital input - number of inputs	4
Switching level 1 signal ("H")	10 V AC/DC ... 50 V AC/DC (Low-voltage input) 50 V AC/DC ... 250 V AC/DC (High-voltage input)
Switching level 0 signal ("L")	0 V AC/DC ... 4 V AC/DC (Low-voltage input) 0 V AC/DC ... 20 V AC/DC (High-voltage input)
Supply voltage	19.2 V DC ... 30.5 V DC (T-connector)
Current consumption typ./max.	11 mA
Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Dimensions W / H / D	17.5 mm / 99 mm / 114.5 mm

	Type	Order No.	Pcs. / Pkt.
	RAD-DI4-IFS	2901535	1

Accessories	Type	Order No.	Pcs. / Pkt.
I/O extension module, 4 digital relay outputs	RAD-DOR4-IFS	2901536	1

I/O extension module - digital relay output module

Extension module for Radioline wireless system, with 4 digital relay outputs (6 A, 250 V AC/24 V DC)

Technical data	
Certification	/ Ex:
Digital output - contact type	PDT
Switching voltage	250 V AC / 24 V DC
Supply voltage	19.2 V DC ... 30.5 V DC (T-connector)
Current consumption typ./max.	55 mA
Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (> 55°C derating)
Dimensions W / H / D	17.5 mm / 99 mm / 114.5 mm

	Type	Order No.	Pcs. / Pkt.
	RAD-DOR4-IFS	2901536	1

Accessories	Type	Order No.	Pcs. / Pkt.
I/O extension module, 4 digital inputs	RAD-DI4-IFS	2901535	1

I/O extension module - digital/pulse input module

Extension module for Radioline wireless system, with 8 digital inputs (0 … 30.5 V DC) or 2 pulse inputs (0 … 100 Hz)

Technical data	
Certification	Ex: ⟨Ex⟩
Digital input - number of inputs	8
Switching level 1 signal ("H")	10 V DC ... 30.5 V DC
Switching level 0 signal ("L")	0 V DC ... 4 V DC
Counter/frequency input - number of inputs	2
Signal range	0 V DC ... 30.5 V DC
Input frequency	< 100 Hz (Pulse counter mode)
Supply voltage	19.2 V DC ... 30.5 V DC (T-connector)
Current consumption typ./max.	18 mA
Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Dimensions W / H / D	17.5 mm / 99 mm / 114.5 mm

	Type	Order No.	Pcs. / Pkt.
	RAD-DI8-IFS	2901539	1

Accessories	Type	Order No.	Pcs. / Pkt.
I/O extension module, 8 digital transistor outputs	RAD-DO8-IFS	2902811	1

I/O extension module - digital transistor output module

Extension module for Radioline wireless system, with 8 digital transistor outputs (30.5 V DC/200 mA)

Technical data	
Certification	Ex: ⟨Ex⟩
Digital output - contact type	Transistor
Switching voltage	30.5 V DC
Supply voltage	19.2 V DC ... 30.5 V DC (T-connector)
Current consumption Typ./max.	22 mA
Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Dimensions W / H / D	17.5 mm / 99 mm / 114.5 mm

	Type	Order No.	Pcs. / Pkt.
	RAD-DO8-IFS	2902811	1

Accessories	Type	Order No.	Pcs. / Pkt.
I/O extension module, 8 digital inputs and 2 pulse inputs	RAD-DI8-IFS	2901539	1

Omnidirectional antenna, salt water resistant, 6 dBi gain

Omnidirectional antenna, 2.4 GHz, 6 dBi, linear vertical, h/v 360°/20° opening angle, N (female), IP65, salt water resistant

RAD-2400-ANT-OMNI-6-0-SW

Technical data	
Frequency range	2.4 GHz ... 2.5 GHz
Gain	6 dBi
Impedance	50 Ω
Connection method	N (female)
Horizontal opening angle	360 °
Vertical opening angle	20 °
Degree of protection	IP65
Width / height	20 mm / 330 mm
Ambient temperature (operation)	-40 °C ... 70 °C
Scope of supply	Incl. mounting material

	Type	Order No.	Pcs. / Pkt.
	RAD-2400-ANT-OMNI-6-0-SW	2903219	1

Directional wireless antenna, 9 dBi gain

Directional wireless antenna, either in dual-band version (2.4/5 GHz) or with two emitters (5 GHz only), 9 dBi, IP67

ANT-DIR-2459-01

ANT-DIR-5900-01

Common technical data	
Gain	9 dBi
Impedance	50 Ω
Connection method	N (female)
Degree of protection	IP67
Width / height	80 mm / 101 mm
Ambient temperature (operation)	-40 °C ... 80 °C
Scope of supply	Incl. mounting material

Frequency range	Horizontal opening angle	Vertical opening angle	Type	Order No.	Pcs. / Pkt.
2.4 GHz ... 2.5 GHz 5.15 GHz ... 5.875 GHz	75 ° (At 2.4 GHz) 55 ° (At 5 GHz)	55 ° (At 2.4 GHz) 55 ° (At 5 GHz)	ANT-DIR-2459-01	2701186	1
5.15 GHz ... 5.875 GHz	70 ° (At 5 GHz)	60 ° (At 5 GHz)	ANT-DIR-5900-01	2701348	1

Adapter

Adapter cable for adapting the wireless module to the antenna

RAD-ADP-N/F-N/F

RAD-ADP-SMA/F-SMA/M-90

Common technical data	
Impedance	50 Ω
Ambient temperature (operation)	-65 °C ... 165 °C

Connection method	Attenuation	Type	Order No.	Pcs. / Pkt.
N (female) -> N (female)	0.3 dB	RAD-ADP-N/F-N/F	2867843	1
N (male) -> SMA (female)	0.3 dB	RAD-ADP-N/M-SMA/F	2917036	1
SMA (female) -> SMA (male)	0.5 dB	RAD-ADP-SMA/F-SMA/M-90	2917324	1

Antenna extension cable

Extension cable to distance the antenna from the device.
Application: leading out from the control cabinet, installation at a higher point or feeding through a wall.

Common technical data	
Impedance	50 Ω
Ambient temperature (operation)	-40 °C ... 105 °C

RAD-CAB-EF393- 3M

Description	Length	Connection method	Cable, attenuation	Type	Order No.	Pcs. / Pkt.
Antenna cable type EF 393	3 m	N (male) -> N (male)	Approx. 0.27 dB/m for 900 MHz	RAD-CAB-EF393- 3M	2867649	1
Antenna cable type EF 393	5 m	N (male) -> N (male)	Approx. 0.45 dB/m	RAD-CAB-EF393- 5M	2867652	1
Antenna cable type EF 142	3 m	SMA (male)	Approx. 0.93 dB/m	RAD-CAB-EF142-3M	2884512	1
Antenna cable type EF 142	5 m	SMA (male)	Approx. 0.93 dB/m	RAD-CAB-EF142-5M	2884525	1

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ATP-ST QUATTRO	3030815	34
ATP-ST-TWIN	3030789	33
ATP-STTB 4	3030747	40
ATP-UK	3003224	44
ATP-UT	3047167	24
ATP-UT-QUATTRO	3047196	26
ATP-UT-TWIN	3047183	25
ATP-UTTB 2,5/4	3047316	27
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BRIDGE- 2-3M	2901543	128
BRIDGE- 3	2900747	128
BRIDGE- 3-3M	2901656	128
BRIDGE- 4	2900748	128
BRIDGE- 4-3M	2901659	128
BRIDGE- 5	2900749	128
BRIDGE- 5-3M	2901545	128
BRIDGE- 6	2900750	128
BRIDGE- 6-3M	2901697	128
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BRIDGE- 7-3M	2901698	128
BRIDGE- 8	2900752	128
BRIDGE- 8-3M	2901700	128
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CRIMPFOX 50R	1212041	85
CRIMPFOX-RC 16-N	1212688	85
CRIMPFOX-RCI 6-N	1212687	85
CRIMPFOX-SC 6-N	1212689	85
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CRIMPFOX-TC 4	1212113	84
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